BULLETIN OF THE UNIVERSITY OF SANTA CLARA

Volume II Number 1

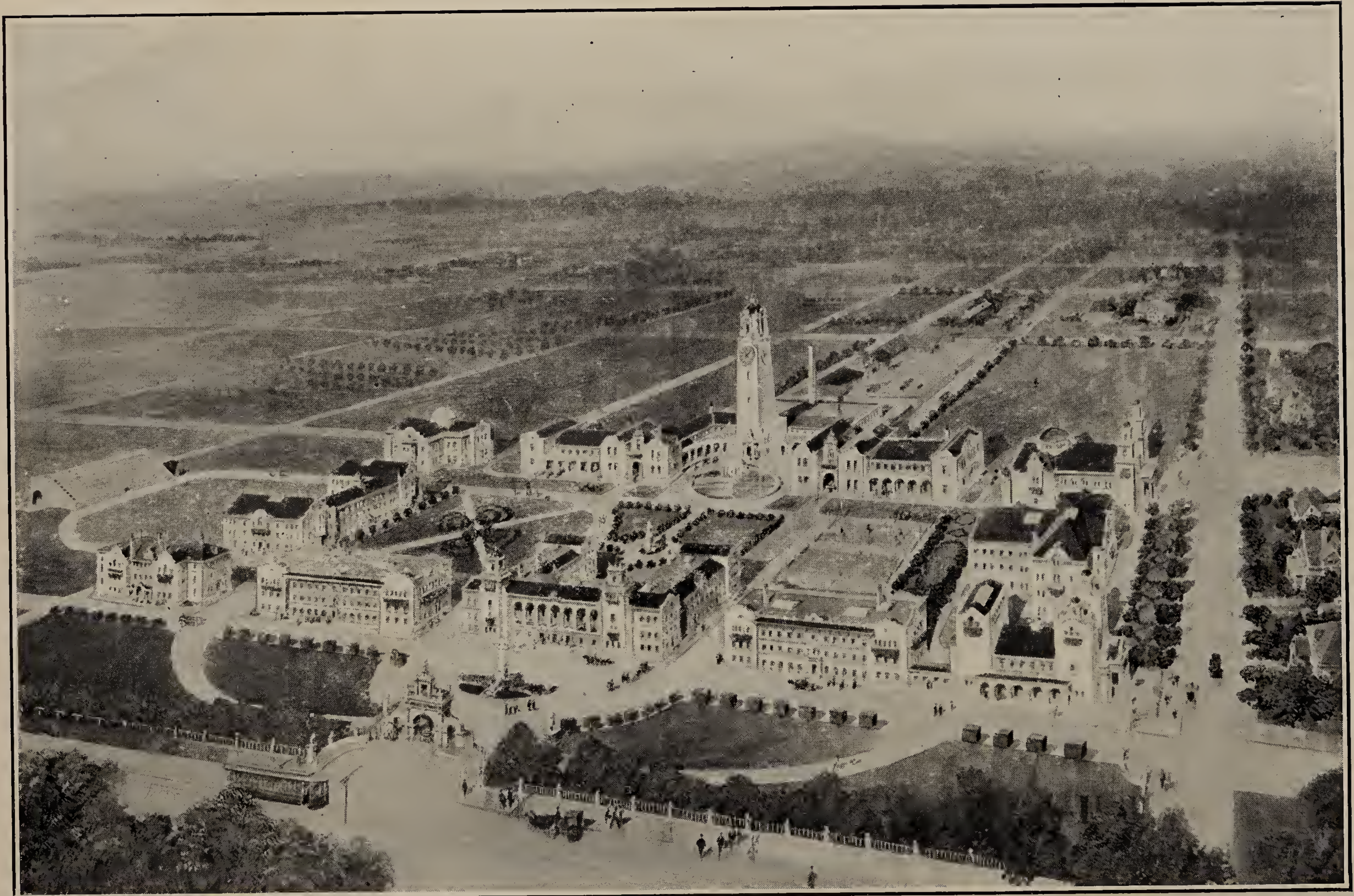
University of Santa Clara

General Catalogue

SANTA CLARA, CALIFORNIA
AUGUST, 1912

PUBLISHED QUARTERLY

Application for admission as second class matter at the
post-office of Santa Clara pending



BULLETIN OF THE UNIVERSITY OF SANTA CLARA

Volume II Number 1

University of Santa Clara

CATALOGUE

ANNOUNCEMENT
1912-1913

Published by the University Press
Santa Clara, Cal.

The Corporate Title of the University is

THE PRESIDENT AND BOARD OF TRUSTEES OF SANTA CLARA COLLEGE

BOARD OF TRUSTEES

JAMES P. MORRISSEY, S. J.
President

JOHN J. LAHERTY, S. J.
Secretary and Treasurer

ALOYSIUS V. RAGGIO, S. J. JEROME S. RICARD, S. J.
ROBERT E. KENNA, S. J. WM. CULLIGAN, S. J.
CHARLES M. LORIGAN, Esq.

EXECUTIVE BOARD

THE PRESIDENT JOHN J. LAHERTY, S. J.
CHARLES M. LORIGAN, Esq.

Consulting Attorney
CHARLES M. LORIGAN, Esq.,
San Jose, Cal.

INDEX

Faculty 6
General Information .... 9—32
    Location 9
    Foundation 10
    The Present 12
    Constituent Colleges 13
    Funds and New Buildings 13
    System of Education 14
    Studies 18
    Sessions and Holidays 19
    Committees 20
    Scholarships 21
    General Regulations 23
    Expenses 26
    To Applicants 29
    Departmens. Courses 30
Entrance Requirements in all Departments 33
College of Philosophy & Letters & General Science .... 36—61
    Philosophy 38
    Economics 41
    Sociology 42
    Physics 43
    Mathematics 46
    Chemistry 47
    English 49
    Latin 53
    Greek 55
    History 56
    Philosophy of Religion 57
    Modern Languages 59
Institute of Law .... 62—87
    Study of the Law 62
    Realm of Law 62
    Courses of Studies in Detail 63
    Method of Instruction 72
    Specific Plan Adopted 77
    Relative Importance of Topics 79
    The Law Course 79
College of Engineering .... 88—120
    Civil Engineering 90
    Mechanical Engineering 107
    Electrical Engineering 114
College of Architecture .... 120—125
    Courses in College of Architecture 120
School of Pedagogy .... 127—129
    Courses in Pedagogy 127
Pre-Medical Course .... 129—30
Graduates ....
Prizes 133
Honors and Distinctions 136
List of Students 139
Preparatory School .... 149—159
Re-opening 160

FACULTY OF THE UNIVERSITY

REVEREND JAMES PETER MORRISSEY, S. J.,
President

REVEREND FRANCIS JOSEPH BURKE, S. J.,
Vice-President and Director of Discipline.

REVEREND JOHN JOSEPH LAHERTY, S. J.,
Secretary and Treasurer.

REVEREND WILLIAM MICHAEL BOLAND, S. J.,
Director of Studies, Professor of Logic and Metaphysics

REVEREND JOSEPH THOMAS MORTON, S. J.,
Director of Entrance Studies

REVEREND HENRY EMIL BOESCH, S. J.,
Registrar, Instructor in French

REVEREND JEROME SIXTUS RICARD, S. J.,
Professor of Ethics and Mathematics; Director of Astronomical Observatory and of the Meteorological and Seismological Stations.

REVEREND RICHARD H. BELL, S. J.,
Professor of Physics and Mathematics

REVEREND ANTHONY CICHI, S. J.,
Emeritus Professor of Chemistry

REVEREND JAMES CONLON, S. J.,
Professor of Chemistry and Biology.

FACULTY OF UNIVERSITY

REVEREND FELIX ANTHONY ROSSETTI, S. J.,
Professor of English, Latin and Greek.

REVEREND EDMUND WALL, S. J.,
Instructor in English and Latin

REVEREND HENRY A. GABRIEL, S. J.,
Lecturer in Sociology.

WILLIAM IGNATIUS LONERGAN, S. J.,
Professor of the English Language and Literature, and of Latin

ALPHONSE JUNIPERO QUEVEDO, S. J.,
Professor of Mathematics.

JOSEPH ALOYSIUS VAUGHAN, S. J.,
Professor of Chemistry and Mathematics

LAWRENCE EMMETT O'KEEFFE, S. J.,
Professor of Law, Instructor in English.

CHARLES AUGUST BUDDE, S. J.,
Instructor in Chemistry and German.

EDMOND JOSEPH RYAN, S. J.,
Professor of Greek, Instructor in English and Latin

CHARLES E. O'BRIEN, S. J.,
Instructor in Latin and Greek

FACULTY OF UNIVERSITY

S. ALOYSIUS ELINE, S. J.,
Assistant Director of Discipline, Instructor in Latin

JOHN HENRY McCUMMISKEY, S. J.,
Instructor in Latin.

JOSEPH RANDALL CROWLEY, S. J.,
Instructor in Latin, English and History.

EUGENE J. IVANCOVICH, S. J.,
Instructor in Latin and English

RAYMOND ALOYSIUS BUTLER, S. J.,
Instructor in English, Latin and Greek.

JAMES H. CAMPBELL, PH. D., J. D.,
Dean of the Institute of Law, Professor of Law.

CLARENCE CHARLES COOLIDGE, B. S., A. B., J D.
Professor of Law.

NICHOLAS BOWDEN, LL. B.
Professor of Law.

JAMES PETER SEX, PH. D., J. D.
Professor of Law.

EDWIN COOLIDGE, LITT. B., LL. B
Professor of Law, Economics and Journalism.

FACULTY OF UNIVERSITY

JUDGE W. G. LORIGAN, LL. D.,
Associate Justice, Supreme Court of California.
Lecturer in Law.

CURTIS H. LINDLEY, LL. D.,
President California Bar Association 1911.
Lecturer in Law.

JUDGE J. V. COFFEY,
Superior Court, San Francisco, California.
Lecturer in Law.

JUDGE B. V. SARGENT,
Superior Court, Monterey County, California.
Lecturer in Law.

JUSTIN JEREMIAH GRIMES
Professor of Graphics and Mechanical Drawing
Instructor in Mathematics.

JOSEPH L. DONOVAN, C. E.,
Professor of Civil Engineering.

GEORGE L. SULLIVAN, M. E.,
Professor of Mechanical Engineering

ALBERT F. PORTA, C. E.,
Professor of Architecture.

*JOHN MONTGOMERY, M. S., PH., D.,
Professor of Aero-dynamics.

---

*Deceased, November 1, 1911

FACULTY OF UNIVERSITY

CHARLES D. SOUTH, A. M., Litt. D.,
Instructor in Latin, English and History, and in Commercial Branches

B. S. SULLIVAN, B. S.,
Instructor in Commercial Branches.

HARDIN NORMAN BARRY, A. B.,
Instructor in Mathematics.

ERVIN SAMUEL BEST,
Instructor in Commercial Branches.

JOSEPH R. FERNANDEZ,
Instructor in Spanish.

AUGUST W. KAUFMANN,
Instructor in Music.

CAMILLO D'ANDREA,
Instructor in Music.

DAVID POWER,
Instructor in Music.

FREDERICK GERLACH, M. S., M. D.,
Visiting Physician and Surgeon.

WENDELYN WAIBLE S. J.,
Infirmarian.

UNIVERSITY OF SANTA CLARA

ITS FAVORED LOCATION

The University, with its numerous buildings and spacious and beautiful grounds, where stately palms wave their banners seventy feet in air, is the principal feature of the interesting Mission town of Santa Clara, in the beautiful valley of the same name. It lies in Central California, forty-eight miles south of San Francisco, a city of half a million inhabitants, and is separated from San Jose, the chief city of the county, only by the historic Alameda, three miles long. The Valley of Santa Clara is famous throughout the world for the rare beauty of its scenery, the salubrity of its climate, and the excellence of its fruits. The climate is mild and equable both in summer and winter, and on that account singularly favorable to the prosecution of persistent study and deep research. While never oppressively hot, this climate is far sunnier than the Sunny South, especially in winter; more genial and balmy than Italy or Andalusia.

When this locality was little more than a wilderness, its attractions of climate, location and scenery fascinated Bayard Taylor, the greatest traveler America has produced. Of all place on earth, to him the land of Eden was California, and of all places in California, the Vale of San Jose (as he understood it was called). Again and again he refers to it in terms of the most glowing praise.

Besides the road over which the great traveler was glad to travel in a carriage, a multitude of trains, several of them transcontinental, now rush daily. All the way from San Jose to the great city of San Francisco fifty miles away, the slopes are adorned with lovely homes; the jungles of mesquite and chapparal, so dense as hardly to allow the passage of a rabbit, have given place to trim orchards, luxuriant gardens, and pleasant homes.

FOUNDATION

It is in this scene that the University of Santa Clara is set. It is located on the site of the Old Mission of Santa Clara, Santa Clara, California.

On January 12, 1777, two Franciscan Padres, de la Pena and Murguia, planted the Mission Cross on the banks of a little stream, called from that time the Guadalupe, at a spot now forming a part of the Laurel Wood Farm, near the Agnew Asylum. Two years later, a flood destroyed the primitive buildings, both church and monastery, and the Padres in consequence sought a site on higher ground near the present railway depot of Santa Clara.

There, on November 9, 1781, they laid the foundations of a large adobe church and mission buildings. Three years later, on May 15, 1784, the new church was dedicated, by the Venerable Padre Serra, then Padre Presidente of all the Missions of California.

This church, however, was so badly shattered by several earthquakes in 1812 and 1818, that the Padres were forced to build anew. This time they chose the site which the University now occupies. There on

August 11, 1822, the same Padre Serra dedicated a still larger church which did service for many years till the violent earthquakes in the years 1865 and 1868 so cracked and weakened it that extensive repairs were necessary. By the year 1885 it had been almost entirely removed, having been gradually replaced by the present wooden edifice, the interior of which is a nearly perfect facsmile of its predecessor, retaining as it does, some of the old ornaments and furniture and the very ceiling of its sanctuary; while the other parts are so designed as to be a faithful reproduction of the original church.

The Mission of Santa Clara was secularized in 1836 and passed from the hands of the devoted Padres into those of politicians, who in dealing with the helpless Indians, violated as well God's laws of right and justice, as the laws of the Mexican government in whose name they ruled. Santa Clara was soon robbed of her lands, and her children were oppressed or driven away to the forests.

When Rt. Rev. Joseph Sadoc Alemany, O. P., arrived on the scene, as Bishop of the Diocese of San Francisco in 1850, he found one lone Franciscan in charge of the mission, which had been restored by the American government, though in a sadly reduced form, most of the land being occupied by squatters.

Desiring to save the remnants of the mission, and also to start a college to meet the growing need of the times, the Bishop invited the Society of Jesus to Santa Clara. The invitation was accepted, and accordingly on March 19, 1851, the Rev. John Nobili, with a capital of "one hundred and fifty dollars and a brave heart", laid the foundation of the University of Santa Clara and began the work.

Nobili adapted the old adobe buildings to the requirements of a school, and in a few years numerous students were in attendance. In 1856 in the midst of his works he was stricken down, not, however, before he had seen the institution he had founded, on April 28, 1855, chartered a university.

Men after his own heart offered themselves to carry on his work, and students came from every part of California, as well as from neighboring states, so that the influence of Santa Clara was felt from the very outset. This influence has steadily increased and now there is hardly a city or town in the West which does not count an alumnus of the pioneer University among its most loyal and eminent sons.

THE PRESENT

The popularity of the University has steadily increased in the course of years. An ever increasing number of students give evidence of the efficiency of the education and training it imparts. Owing, however, to the fact that only a limited number of students could be accommodated this growth of Santa Clara has been greatly hampered. Last year, for exaple, the pre-academic classes were discontinued and between forty and fifty students who applied for entrance into these classes were refused admission.

Even more pronounced than this material growth has been the improvement wrought in the student body by the judicious selection of applicants for admission and the no less judicious elimination from the

University, of students whose moral influence was not helpful. The principle of the faculty has been to receive and retain no one whose manners are not gentle and whose habits are not irreproachable. Today parents realize that education which neglects manners is a mistake and that a university which overlooks or takes little account of morals is a monstrosity.

CONSTITUENT COLLEGES

The University now possess the following constituent Colleges: The College of Philosophy and Letters; The College of General Science; The Institute of Law; The College of Engineering, embracing Civil, Mechanical and Electrical Engineering; the College of Architecture; The School of Pedagogy; and The Pre-Medical Course.

FUNDS AND NEW BUILDINGS

The growth in the number of her students of recent years has made it imperative to provide ampler and more substantial accommodations for the students. For this and in order that Santa Clara may widen her scope as a first class educational institution funds are necessary. Santa Clara stands in imperative need of an endowment. The work the University has accomplished in the past is an earnest of what she will do when increased facilities are afforded her.

An endowment, however, implies a founder or founders and benefactors. During the past few years many have helped the University and generous donations have been made. The first of the new buildings, the Administration building, a structure 200x43, in re-enforced concrete and the Senior Hall likewise in re-enforced concrete are completed. But before other buildings for which the plans of the University provide may be added, further benefactors will be needed. Other educational institutions, even those state-aided and richly endowed receive generous assistance in the work and hesitate not to ask it. Santa Clara feels that generous friends are not lacking, though for the want of deeper thought on the matter, few realize the importance of Christian Educational work, the immense sacrifice it entails, and the merit there is in co-operating and sharing with Christian educators in their work for God and Country and the welfare of the young men of our generation who are to become the leaders of the generation of tomorrow. The faculty of the University has given its life-services freely and gladly to the work. Those who would share with them in this great enterprise can do so most effectively by rendering material aid and contributing funds for the continuence and development of the work.

FORM OF BEQUEST

I give and bequeath unto the President and the Board of Trustees of Santa Clara College, a corporation duly incorporated under the laws of the State of California, a sum of..............................--dollars.

SYSTEM OF EDUCATION

The educational system of the University of Santa Clara is based on the Ratio Studiorum of the Society of Jesus. Those who are desirous of making either a scientific or historical study of that system, have abundant sources of information in the following works: **Monumenta Germaniae Padagogica,** Vols. II., V., IX., XVI., **Un College de Jesuites,** par C. De Rochemonteix, S. J., and for a shorter, but complete, commentary on the **Ratio Studiorum,** the reader is referred to **"Jesuit Education",** by Robert Schwickerath, S. J., (Herder, St. Louis, 1903).

The subjoined brief outline of the underlying principles of the system, the dominant features of its method, and the objects aimed at by its teaching will give a general idea of its purpose. By education in its complete sense, Jesuits understand the full and harmonious development of all those faculties that are distinctive of man. It is not, therefore, mere instruction or the communication of knowledge. In fact, the acquisition of knowledge, though it necessarily accompanies any right system of education, is a secondary result of education. Learning is an instrument of education, not its end. The end is culture, and mental and moral development.

Understanding then clearly the purposes of education, such instruments of education, that is, such studies, sciences or languages, are chosen as will most effectively further that end. These studies are chosen, moreover, only in preparation, and in such numbers as are sufficient and required. A student who is to be educated will not be forced, in the short period of his university course and with his immature faculties, to study a multiplicity of the languages and science into which the vast world of modern knowledge has been scientifically divided. If two or more sciences, for instance, give similar training to some mental faculty that one is chosen which combines the most effective training with the larger and most fundamental knowledge.

The purpose of the mental training given is not proximately to fit the student for some special employment or profession, but to give him such a general, vigorous and rounded development as will enable him to cope successfully even with the unforeseen emergencies of life. While giving the mind stay, it tends to remove the insularity of thought and want of mental elasticity, which is one of the most hopeless and disheartening results of specialism in students who have not brought to their studies the uniform mental training given by a systematic university course. The studies, therefore, are so graded and classified as to be adopted to the mental growth of the student and the scientific unfolding of knowledge; they are so chosen and communicated that the student shall gradually and harmoniously reach, as nearly as may be, that measure of culture of which he is capable.

It is fundamental in the system of the Society of Jesus that different studies have distinct and peculiar educational values. Mathematics, the Natural Sciences, Languages and History are complementary instruments of education to which the doctrine of equivalence cannot be applied. The specific training given by one cannot be supplied by another.

Furthermore, Language and History have always been held in esteem as leading factors in education.

Mathematics and the Natural Science bring the student into contact with the material aspects of nature, and exercise the inductive and deductive powers of reason. Language and History effect a higher union, they are manifestations of spirit to spirit, and by their study and for their acquirement the whole mind of man is brought into widest and subtlest play. The acquisition of Language especially calls for delicacy of judgment and fineness of perception, and for a constant, keen and quick use of the reasoning powers. A special importance is attacked to the classic tongues of Rome and Greece. As these are languages with a structure and idiom remote from the language of the student, the study of them lays bare before him the laws of thought and logic, and requires attention, reflection, and analysis of the fundamental relations between thought and grammar. In studying them the student is led to the fundamental recesses of language. They exercise him in exactness of conception in grasping the foreign thought and in delicacy of expression in clothing that thought in the dissimilar garb of the mother-tongue. While recognizing, then, in education the necessity and importance of Mathematics and the Natural Sciences, which unfold the inter-dependence and laws of the world of time and space, the Jesuit system of education has unwaveringly kept Language in a position of honor as an instrument of culture.

Lastly, the system does not share the illusion of those who seem to imagine that education, understood as an enriching and stimulating of the intellectual faculties, has a morally elevating influence in human life. While conceding the effects of education in energizing and refining imagination, taste, understanding and powers of observation, it has always held that knowledge and intellectual development of themselves have no moral efficacy. Religion only, can purify the heart and guide and strengthen the will.

The Jesuit system of education, then, aims at developing side by side, the moral and intellectual faculties of the student, and sending forth to the world men of sound judgment, of acute and rounded intellect, of upright and manly conscience. And since men are not made better citizens by the mere accumulation of knowledge, without a guiding and controlling force, the principal faculties to be developed are the moral faculties. Moreover, morality is to be taught continuously; it must be the underlying base, the vital force supporting and animating the whole organic structure of education. It must be the atmosphere the student breathes. It must suffuse with its light all that he reads, illumining what is noble and exposing what is base giving to the true and false their relative light and shade.

STUDIES

It is one of the decided advantages of the system followed at Santa Clara, that the student may begin his studies in the Preparatory School conducted under the supervision of the University authorities, and then pass on, through the University Course, to graduation under the same direction and influence. This secures, besides the moral influence thus gained, a uniform and homogeneous course of teaching and training. The result of this system is a continuous and normal development of the mental faculties along well defined lines, and the possession of a clear and coherent system of principles upon the subjects which he has studied.

SESSIONS, HOLIDAYS, HOURS

The school year consists of two semesters.

The first semester in 1912-1913 commences September 12, 1912 and ends January 31, 1913.

The second semester begins February 1, 1913, and ends June 21, 1913.

HOLIDAYS .

The recess at Christmas-tide extends from December twenty-first to January third.

The weekly holiday is on Wednesday.

HOURS.

Lectures and Classes begin daily at 8:55 A. M., and close at 3:30 P. M.

COMMITTEES

Examinations—

- **Sophomore**—The Professors of Sophomore and Freshman.
- **Junior**—The Director of Studies, the Professors of Mental Philosophy, Physics, Chemistry and Analytical Geometry.
- **Senior**—The President, the Director of Studies, the Professors of Ethics, Physics, Chemistry and Calculus.

Theses—The Director of Studies, the Professors of Junior and Senior year.

Athletics—The Director of Discipline, the Faculty Director, assisted by the Officers of the Student Body.

Dramatics and Public Exercises—The President, the Director of Studies, the President of Senior Dramatic Club, and the Professors of English.

"The Redwood"—The Director of Studies, the Faculty Director guiding the Staff, the Professors of Ethics and the Professors of Philosophy and English.

Post-Graduate Studies—The President, the Director of Studies, the Professors of the subjects in which the Post-Graduate work is taken.

Discipline—The Director of Discipline, the Assistant Director of Discipline, the Director of Studies.

Attendance—The Director of Studies, the Director of Discipline.

Scholarship and Standing—The Director of Studies, the Deans of the several Colleges.

The University Bulletin—The President, the Director of Studies, the Faculty Director of the Redwood.

SCHOLARSHIPS

Every year several deserving young men of high character and aspirations, whose means do not permit their attending the university, appeal to the Faculty for assistance to obtain the education for which their talents and vocation fit them. There is scarcely a university in the United States which is not provided with a fund for this purpose, and a relatively large percentage of successful college men spring from the class of assisted students. It is clearly a noble benefaction to contribute to such a purpose in any case. But this is especially so in the case of those who apply for help to the University of Santa Clara. They are as a rule young men of high standing, who understand the paramount value of an education in a university which aims at the highest intellectual development of the student, while devoting no less attention to the perfect development of his moral character. As a consequence it follows that to assist them in attaining their desire is to aid picked young men whose future is more than ordinarily full of promise, and who are destined to exert a most powerful influence on those among whom their lives will be spent.

It is the intention of the Faculty of University of Santa Clara to make an earnest effort to supply this pressing need, by establishing free scholarships for resident and non-resident students, so that worthy young men may receive the help they desire. For this purpose an appeal is made to all who appreciate the importance of the matter.

The Scholarships to be founded will be of two classes, perpetual and temporary. By establishing a perpetual scholarship the donor will maintain one student at University of Santa Clara in perpetuity. A temporary scholarship will maintain one student at the University during the four years of his course. The amount contributed will be invested in reliable securities, the interest of which will support the student. The cost of founding Scholarships is as follows:

Perpetual Scholarship for a resident student—board, lodging, etc., tuition, text-books	$12,500.00
A perpetual Scholarship for a day student—tuition and text-books	$ 3,000.00
A temporary Scholarship for a resident student—board, lodging, tuition, text-books, for four years	$ 2,000.00
A temporary Scholarship for a day student—tuition, text-books, etc., for four years	$ 500.00

It is the desire of the Faculty to name these Scholarships after their founders, that thus the recipients of their generosity may know to whom they are indebted for their education, and ever retain grateful rememberance of them.

We are pleased to announce that the first perpetual Scholarship for a resident student has this year been established through the generosity of a Friend in memory of the late Mrs. Alice Phelan Sullivan. It will be known as the Alice Phelan Sullivan Memorial Scholarship.

GENERAL REGULATIONS

No one will be admitted as a student unless he has a good moral character.

Candidates for admission must present satisfactory recommendations. Those from other educational institutions must be recommended by the institutions whence they came. For scholarship requirements cf Graduate and Undergraduate Departments.

Students are not received for a shorter period than half a session.

As the Faculty of the University profess the Catholic Religion, the exercises of religious worship are Catholic; but members of any religious denomination are received, provided they be willing, for the sake of order and uniformity, respectfully to conform to the religious observances of the University.

No student will be permitted to leave the University on visits of any length, except at the Christmas holidays from the twenty-third of December to the third of January, if such be the wish of his parents or guardian. Parents are requested not to call their sons home at other times, except in cases of urgent necessity, as such interruptions, besides tending to undermine or prevent the acquisition of habits of concentration and persevering work, are apt to result in poor scholarship and in the consequent wrecking of the whole career of the student.

A recess at Thanksgiving and Easter may be given at the discretion of the President.

Students who, having left the University for the summer vacation, or Christmas holidays, fail to be present on the day for the re-opening of class, will, by the fact of absence, be excluded from the University, or at the discretion of the Faculty from privileges until the following semester, particularly the privilege of visiting friends and relatives on the Second Wednesday, unless parents or guardians show cause of absence, which the Faculty shall consider wholly sufficient.

The students are not allowed the use of tobacco, except in First Division, with written permission from parents or guardians.

Students are not permitted to have books or other publications that have not been approved by the Vice President.

To cultivate the heart, no less than to develop the intellectual and physical faculties of the students, is a duty kept constantly and sacredly in view.

The students' correspondence is subject to the inspection and control of the President.

To hold meetings or to form clubs or societies of any kind without the consent of the President; the habitual use of profane language; gross immorality committed either within or without the precincts of the Institution; the possession or distribution of immoral publications or pictures; intoxication; procuring or introducing intoxicating liquors, directly or indirectly into the University; habitual idleness and violation of the rules of the University; obstinate refusal to submit to a punishment inflicted; absence from the University at night without leave from the President; avowded principles of infidelity; express contempt or ridicule of religion, are offences which expose the offenders to dismissal.

EXPENSES IN ALL THE DEPARTMENTS OF THE UNIVERSITY

RESIDENT STUDENTS.

Marticulation Fee to be paid but once	$ 15.00
Board, Tuition, Lodging, including washing and mending of linen, per term (half year)	200.00
Fee for athletic activities, per term	2.50

NON-RESIDENT STUDENTS

Tuition in University Course, per term	30.00
Tuition in High School Course, per term	20.00
Dinner, per term	35.00

ADDITIONAL EXPENSES.

Furnished Room and attendance, per year, double rooms	60.00
Furnished Room and attendance, per year, double rooms used for one person	120.00
A few rooms are reserved at a higher rate.	
No room shall be considered engaged unless a deposit of $25.00 has been made for the same. On his actual entrance into the University, half of this amount will be credited to the student's account, and the other half will be retained as security against damage to room or furniture.	
Law students' deposit for books, per year	25.00

Pre-Medical Laboratory, per term	25.00
Engineering Laboratory, shop, etc., Senior and Junior years, per term	25.00
Laboratory for Juniors and Seniors, not in Engineering Courses, per term	12.50
Senior and Junior Archetecture, per term	25.00
Freshman and Sophomore Laboratory, per term	7.50
Modern Languages not in regular course, per year	20.00
Science deposit for breakage	5.00
Typwriting, full course	20.00
For each Academical Degree	10.00
For Commercial Certificate	5.00
For each extra examination	2.00

ALL CHARGES MUST BE PAID HALF YEARLY IN ADVANCE.

No expenditure for clothing or for incidental expenses of any student and no advances for pocket money will be made by the Institution, unless an equivalent sum has been deposited with the Treasurer of the University.

Books and stationery are furnished at dealers' rates.

No rebate will be allowed in favor of those who enter late, nor, in the case of any student, for absence at the opening of the terms in September and February. No reduction is made when students are withdrawn from University during the term for other reasons than serious illness. Degrees will not be conferred on any student whose account with the University has not been settled.

An itemized bill is sent at the end of each semester.

(1) Term bills and other accounts are subject to sight draft if not paid within ten days after they have been rendered.

(2) Remitances should be made payable to the order of the University of Santa Clara.

(3) No one may be temporarily or permanently withdrawn from University without the President being directly notified. In either event money should be sent for the trip, and, in the latter, accounts ought also to be settled.

(4) Those who do not return home for the summer vacation are afforded accommodations at moderate rates with respectable families, who, under the direction of the College authorities, assume charge of them.

(5) A limited number of student waiters can be received at reduced rates.

There are no charges for the services of the College physician; but medicines procured at the College infirmary will be charged as used by individuals.

A HEALTH REQUIREMENT IS EXACTED. All students are subject to examination by the College physician.

TO APPLICANTS

Fill out application blank and forward same to the President, enclosing a certificate of the studies you have completed with a testimonial as to your character and diligence, signed by the Principal of the school you have last attended.

The articles which the students should bring with them are, more or less: two pairs of sheets, three pillow cases, two counterpanes, three suits of clothes, a sufficient number of shirts, drawers, handkerchiefs, socks, shoes, napkins, towels, combs, brushes, etc., all without exception, marked with their name distinctly and imperishably before they come.

Promptness in reaching the University on the day fixed for the opening of classes is necessary. It is essential that Parents and Students understand this clearly from the beginning of their connection with the University, as promptness in returning from vacations and recesses, which is requisite in order to prevent the loss of valuable time and the forming of habits of procrastination and negligence of duty, is strictly insisted on.

DEPARTMENTS OF THE UNIVERSITY

DEPARTMENTS, CURRICULA, COURSES

The University includes the Graduate and Undergraduate Departments.

GRADUATE DEPARTMENT

Aim and Scope—The Graduate Department offers students who have attained to Academic Degrees, studies leading to the higher ones of Master or Doctor as the case may be. The determination of these courses rests with the Committee on Post-graduate Studies. A sufficiently wide option is alloted, much of the instruction being in the form of direction along lines of original research. Courses may be had in Philosophy, English, Latin, Greek, Mathematics, Sociology and Economics, as well as in the professional Colleges of Law, Engineering and Architecture. To those who have taken their Bachelor's Degree with Law, the Degree of LL. B., is granted on the completion of the full course of the Institute of Law.

Theses—Before one is admitted to a higher degree, a theses must be submitted on a subject chosen by the student with the approbation of the Committee on Theses. It must bear on the matter studied, or at least on cognate matter and it shall consist of no fewer than 5000 words. The theses should be typewritten on National White unruled paper, 8½x10¼ inches. The ultimate decision as to whether the effort merits the Degree rests with the Committee on Theses.

UNDERGRADUATE DEPARTMENTS

These include:

A. THE COLLEGE OF PHILOSOPHY AND LETTERS.

A four year's college course, leading to the degree of Bachelor of Arts.

B. THE COLLEGE OF GENERAL SCIENCE.

A four years' college course, leading to the degree of Bachelor of Science.

C. THE INSTITUTE OF LAW.

A standard three years' course of law, leading to the degree of Bachelor of Laws.

D. THE COLLEGE OF ENGINEERING.

- (a) Civil Engineering. A four years' course leading to the degree of Bachelor of Science in Civil Engineering.
- (b) Mechanical Engineering. A four years' course, leading to the degree of Bachelor of Science in Mechanical Engineering.
- (c) Electrical Engineering. A four years' course leading to the degree of Bachelor of Science in Electrical Engineering.

E. THE COLLEGE OF ARCHITECTURE.

A four years' course leading to the degree of Bachelor of Science in Architecture.

F. THE SCHOOL OF PEDAGOGY.

A course of studies in Education which aims at preparing graduates of the University for capable service in the field of high school education.

G. THE PRE-MEDICAL COURSE.

A two years' course of studies in Chemistry, Biology, and Anatomy, which is recommended to students contemplating entrance into medical schools.

ENTRANCE REQUIREMENTS

Applicants for admission to the Freshman Year must either (1) have completed the regular Four-Year High School course of the Preparatory School of the University, or (2) have completed a similar course in an accredited High School, or (3) pass an examination based on a four-year course amounting in the aggregate to fifteen units. Of these fifteen units, ten or more are prescribed and required of all applicants; the rest are elective from the list of optional subjects.

COLLEGE OF PHILOSOPHY AND LETTERS

SUBJECTS PRESCRIBED

English	3 units
History	2 units
Latin	4 units
Greek	2 units
Algebra	1½ units
Geometry	1½ units

ELECTIVES.

Physics	1 unit
Chemistry	1 unit
Foreign Languages	2 units
English	1 unit
History	2 units
Trigonometry	½ unit

COLLEGE OF GENERAL SCIENCE

SUBJECTS PRESCRIBED

English	3 units
History	2 units
Foreign Languages	2 units
Algebra	1½ units
Geometry	1½ unit

ELECTIVES

*Physics	1 unit
Chemistry	1 unit
Foreign Languages	2 units
English	1 unit
History	2 units
Trigonometry	½ unit

COLLEGE OF ENGINEERING

SUBJECTS PRESCRIBED

English	3 units
History	2 units
Foreign Languages	2 units
Algebra	1½ units
Geometry	1½ units

ELECTIVES

*Physics	1 unit
Chemistry	1 unit
Foreign Languages	2 units
English	1 unit
History	2 units
Trigonometry	½ unit

*Physics will be required in the College of Engineering and in the College of General Science in 1913-14 and thereafter.

To count a "unit" a subject must be taught five times a week, in periods of not less than forty-five minutes, for a school year of not less than thirty-six weeks.

INSTITUTE OF LAW

Students who desire to enter the Institute of Law must present two years of College work at Santa Clara or some other University or College whose requirements are equally stringent. Students lacking two years of College work may matriculate in the usual manner in the College of Philosophy and Letters or in the College of General Science. At the completion of two full years of College work they will be admitted to the courses of the Institute of Law.

CONDITIONS

In certain cases, at the discretion of the Committee on Entrance Standing, which shall decide on the merits of each particular case, conditions in elective branches to the amount of not more than two units may be allowed. All conditions must, however, be removed by the end of the Freshman year.

As the prescriptions in the classical languages are difficult for secondary schools to meet, two conditions may be permitted in these languages in cases of special merit.

COLLEGE OF PHILOSOPHY AND LETTERS AND GENERAL SCIENCE

HOURS AND PERIODS

SENIOR YEAR		JUNIOR YEAR		SOPHOMORE YEAR		FRESHMAN YEAR	
Subject	Hrs.	Subject	Hrs.	Subject	Hrs.	Subject	Hrs.
Phil. of Religion...	2	Phil. of Religion...	2	Phil. of Religion ...	2	Phil. of Religion ...	2
Ethics............	10	Mental Philosophy.	10	English..........	5	English..........	5
Hist. of Philosophy	1	Hist. of Philosophy	4	Mathematics	3	Mathematics	3
Mathematics	4	Mathematics	4	Physics..........	3	Chemistry	3
Chemistry	3	Physics..........	3	Physics, Lab.	4	Chemistry, Lab....	4
Chemistry, Lab....	4	Physics, Lab.	4	History..........	2	History..........	2
Economics	2	Economics	2	Latin............	5	Latin............	5
Elective..........		Elective		Greek...........	4	Greek	4

Modern Languages are substituted for the Classics in the College of Science

COLLEGE OF PHILOSOPHY AND LETTERS

The College of Philosophy and Letters covers a curriculum of four years and leads to the Degree of Bachelor of Arts. It comprises courses of studies selected with special regard to their cultural value, and which, far from being of merely cultural importance, afford the most solid foundation for many of the learned professions and for those larger commercial pursuits characteristic of the present age, which demand intellects carefully trained and poised by the most efficient educational instruments available.

During the first two years of this curriculum the chief studies are the classical languages and literatures, English, Mathematics, Natural Sciences and History. In the last two years courses in philosophy, ethics and economics are prescribed, and elective work, which counts as one year for the Degree of Bachelor of Arts, may be taken in the Institute of Law, in the Premedical Department, in the Department of Pedagogy, and other departments of the University.

COLLEGE OF GENERAL SCIENCE

The Curriculum of the College of General Science extends over four years and leads to the Degree of Bachelor of Science. Students whose preparatory training in the classics was not sufficient to warrant their entrance into the College of Philosophy and Letters are eligible to this curriculum, in which, with the exception of classical literatures, for which modern languages and literature are substituted, are contained all the strong studies of the curriculum of the College of Philosophy and Letters.

At the beginning of the third and Junior Year in this course students may enter the Institute of Law, the Premedical Department, the Department of Pedagogy or elect other studies from the University cirricula to the amount of one year's work in credits for the Degree of Bachelor of Science.

PHILOSOPHY

Course 1. Logic.

Ten Hours, One Semester.

(a) Dialectics. Simple Apprehensions. Terms—their Supposition. The Definitions and the Division. Judgements. Propositions,—Classification according to Quantity and Quality. Opposition, Equivalence, Conversion, Reasoning,—underlying Principles. The Syllogism; its Laws and its Species. Induction. Method. The Circle.

(b) Critics. Logical Truth and Falsity. States of the mind as to turth. Certitude; Degree, Elements, Kinds. Scepticism, Universal and Partial. Consciousness. The Senses. Nominalism, Conceptualism, Realism, Ultra-Realism. Testimony. Tradition, history. The New Criticism. Reason and Revelation. The Ultimate Motive of Certitude. Evidence.

Course 2. Basic Ontology.

Ten Hours, One Semester.

(a) Basic Ontology. Being. Analogy. Axioms.

Unity, Identity, Distinction—Real and Logical. Truth. Goodness, Evil. Act and Potentiality. Essence and Existence. Possibility, Extrinsic, Intrinsic. Sources of the latter. Substance—Complete, Incomplete—Hypostasis, Person. Accident—Absolute, Relative. The Categories of Aristotle.

(b) **Ontology and Etiology.** The Principle. The Cause. The Condition. The Occasion. Matter—Primordial and Secondary. Form—Substantial, Accidental. Efficiency and Action. Finality. The Order of Intention and the Order of Achievement. The Exemplar. Grades of Perfection. Beauty.

(c) **Cosmology.** Qualities of Bodies. Quantity—Discrete and Continuous. Mathematical Divisibility. Formal Effect. Impenetrability. Space. Place. Change—Substantial, Accidental. Motion and Time. Laws of Nature. Atomism, Dynamism, Hylomorphism.

(d) **Biology.** Organic Life Defined. Vegetable Functions.The Vital Principle in the Plant. Its Superiority to Anorganic Forces. Sensation,—External, Internal. Imagination, Memory, Instinct, Sleep. The Rank of the Animal Soul. Origin of Species. Theory of Independent Formations. Monistic Evolution. Darwinism.

(e) **Psychology.** (a) The Intellect. Genesis of Ideas. Self-consciousness. Judgement and Reasoning. Hypothesis of Innate Ideas. Empiricism. Ontologism. (b) The Will. Freedom. Arguments. Control over Faculties. (c) The Soul. Substantiality, Simplicity, Spirituality, Immortality. The Unity of Each Individual. Union of Body and Soul.

Origin of the Human Soul. Traducianism. Creacionism. Pre-existentianism., Unity and Antiquity of the Race.

Course 3. Theodicy and General Ethics.

Ten Hours, One Semester.

(a) Existence and Nature of God. Metaphysical, Physical, Moral Proofs. Aseity. Infinity, Simplicty, Unity, Unchangeableness, Eternity, Immensity. (b) Life of God. Intelligence. The Futuribles. Will—Primary and Secondary Object. Moral and Physical Evil. (c) Action of God in the Universe. Creation, Conservation, Concurrence, Providence. Miracles.

(b) **General Ethics.** Nature, Object Necessity of Ethics. Teleology, Beatitude. Human Acts. Voluntary and Involuntary Acts. Morality of Human Acts and its Determinants. Passions. Habits. Moral Obligation and its Origin. Eternal Law. Natural Law. Sanction of Law. False Norms of Morality. Utilitarianism. Hedonism. Altruism.

Course 4. Special Ethics.

Ten Hours, One Semester.

Duties, Worship. Internal and External Worship. False Worship. Homicide. Self-defense. Suicide. Dueling. Veracity. Charity. Rights. Private Ownership. Communism. Socialism. Agrarian Socialism. Henry George. Herbert Spencer. Capital and Labor. Domestic Society. Matrimony. Divorce. Celibacy Parental Authority, Education. Relation of Master and servant. Civil Society; its Nature and Origin. False Theories of Hobbes, Rousseau, Locke. Forms, Scope, Aim, Functions of Civil Government. Suffrage. Liberty of Opinion, of the Press, of Worship, of Association. International Law. Church and State.

ECONOMICS

Course 1. Production and Consumption.

Two Hours, One Semester.

Productive Capacities of Earth, of Man, Industrial Organization, Progress, Locality and Dimensions. Theory of Consumption, Particulars. Family Life and Law. Growth and Decay of Nations.

Course 2. Exchange.

Two Hours, One Semester.

Trade in General. Market Prices. Non-Market Prices. Differential Gains. International Trade. Money. Coinage and Tokens. Credit and Banking. The Foreign Exchanges. Use and Abuse of Commercial Credit. Uncommercial Credit.

Course 3. Distribution.

Two Hours, One Semester.

Profits. Interest. Wages, Rich and Poor. An Apologia for the Rich. Mistaken Theories on Riches. Liberty and Law. Association and Responsibility.

Course 4. Public Finance.

Two Hours, One Semester.

Functions and Cost of Government. Public Ownership and Management. Principles of Taxation. Different Kinds of Taxes. Public Debts.

Course 5. Economic Science.

Two Hours, One Semester.

Scope, method and history of the Science of Economics.

SOCIOLOGY

Course 1. Socialism and Trade Unions.

Two Hours, One Semester.

A lecture course dealing with the history, development and trend of Socialism and Trade Unionism. This course involves copious collateral reading and the verification of inferences by investigation into the asperations and methods of present day representatives of the movements studied.

Course 2. Capitalism.

Two Hours, One Semester.

A course dealing with the history and estimation of accumulated private wealth and following it to its present day forms and characteristics.

Course 3. Condition of the Wage Earners.

Two Hours, One Semester.

This course examines into the actual condition of the working classes and implies an investigation into the helpful and hindering influences which affect the workers and the consideration of the efficacy of present day methods for the betterment of the condition of the wage earners.

Course 4. Co-operation. Competition and Combination.

Two Hours, One Quarter.

A more critical and profound examination into the basic principles of present day economic institutions and of the reforms suggested to remedy their defects.

PHYSICS.

Course 1. Mechanics, Molecular Physics, Sound.

Three Hours, One Semester.

General principles of matter. General properties of Bodies. Equilibrium. Gravity. The balance. Laws of falling bodies. Pendulum. Properties peculiar to Solids. Hydrostatics. Capillarity, endosmose, diffusion, absorption. Hydro-dynamics. The property of gases. Barometers. Measurement of the elastic force of gases. Aerodynamics. Production, propagation and reflection of sound. Measurement of the number of vibrations. The physical theory of music.

Course 2. Light, Heat, Electricity.

Three Hours, One Semester.

Transmission, velocity, intensity and reflection of light. Mirrors. Single refraction. Lenses. Dispersion and achromatism. Optical instruments. The eye. Sources of light. Phosphorescence. Double refraction. Interference and polarization. Properties of magnetism. Methods of magnetization. Laws of magnetic action. Terrestrial magnetism. Fundamental principles of frictional electricity. Quantitative laws of electric action. Distribution. Electrostatic induction of influence. Electric machines. Condensation of electricity. Voltaic cell. Its modifications. Magnetic field due to current. Galvanometers. Ohm's law. Conversion of electric energy into heat. Thermo-electricity. Electro-dynamics. Electro-magnets. Magnetization of iron. Telegraphy. Electromagnetic induction. Passage of electricity through gases. Magneto and dynamo electric machines. Diamagnetism. Connection between electricity and light. Physiological action of the current. Animal electricity.

Course 3 Physical Measurements.

Four Hours, One Semester.

The use of scales. The straight and barometer vernier. The spherometer. Micrometer wire gauge. The Cathetometer. The micrometer and compound microscope. Angular measurements. The circular vernier, the optical lever. Poggendorff's method and the spirit level. Estimation of mass. General theory of the balance. Weighing by vibrations. Exact weights and errors in weighing. Measurement of area and volume. Determination of density. Relative densities. Elasticity, tenacity and capillarity. Determination of atmospheric pressure. Time, gravitation and moments of inertia. Pendulum. Determination of gravity by Kater's and Bessel's method. Determination of the velocity and pitch of sound.

Course 4. Physical Measurements.

Four Hours, One Semester.

Elementary electro-statics. Electrification by friction, conduction and induction. Magnetism. Determination of horizontal force and magnetic moment. Fundamental experiments in Volatic electricity. The galvanoscope and the galvanometer. Determination of E. M. F. Wheatstone's bridge. Calibration of galvanoscope. Measurements of resistance. The high resistance differential astatic galvanometer. Measurement of galvanometer resistance. Thomson's method. Differential method. Use of slide meter bridge. Carey Foster's method. Measurement of very low resistances. The method of comparison of potentials, projection of equal potentials and auxiliary conductors. Measurement of high resistances. The direct deflection method. Electrolyte resistance. Electrolytic resistance by alternating currents. The tangent galvanometer. Use of the standard galvanometer and the determination of E. M. F. Application of Joule's law. Use of potential galvanometer. Determination of the magnetic elements. Electro-magnetism and electro-magnetic induction. Action of linear current on magnet. Biot and Savart's law. Proof of electro-magnetic laws. Magnetic action of a solenoid. Laws of the electro-magnet. Induction experiments. Induction balance of Hughes. Damping. Comparison of resistance by magneto conductor. Use of earth inductor. Study of magnetic distribution. The condenser. Determination of the absolute capacity of a condenser. Electrometers.

(For other courses in Physics, cf. College of Engineering.)

MATHEMATICS.

Course 1. Plane Trigonometry.

Three Hours, One Semester.

A course in Plane Trigonometry with many applications so as to give a thorough review of algebra and geometry. Practical problems.

Course 2. Spherical Trigonometry, Advanced Algebra.

Three Hours, One Semester.

A brief course intended to familiarize the student with Spherical Trigonometry and some of its applications. The last four months of the semester will be devoted to Higher Algebra, special attention being given to graphical methods.

Course 3. Analytic Geometry.

Four Hours, One Semester.

A course covering the general principles and more practical applications of Plane Analytic Geometry.

Course 4. Analytic Geometry and Calculus.

Three Hours, One Semester.

A brief course in Solid Analytic Geometry and elementary Calculus intended to acquaint the student with the methods of higher mathematics.

Course 5. Differential Calculus.

Three Hours, One Semester.

A course intended for Seniors and covering thoroughly the theoretical parts of the subject.

Course 6. Integral Calculus.

Four Hours, One Semester.

A course similar to course 5 in Integral Calculus.

For other Courses in Mathematics cf. The College of Engineering.

CHEMISTRY.

Course 1. General and Inorganic Chemistry.

Two Hours, One Semester.

Discussion of Fundamental Laws, Mathematics of Chemistry. Ordinary elements studied from the standpoint of the Periodic Law.

Course 2. Laboratory.

Two Hours, One Semester.

Practical demonstration of Laws and Theories enunciated in Course 1. This course must be taken in conjunction with Course 1.

Course 3. Analysis A.

Two Hours, One Semester.

Dry method of analysis; detection of metals, non-metals, and acid radicals. Use of the blow-pipe.

Course 4. General and Inorganic Chemistry.

Two Hours, One Semester.

Ordinary and rarer elements from the standpoint of the Periodic Law. Metallurgy, with particular adaptation to the needs of Engineering students.

Course 5. Laboratory.

Two Hours, One Semester.

Practical demonstration of principles discussed according to Course 4 in the Lecture Hall. Manufacture of Iron, Steel, Cement, Gas, Lubricators, Distillates, Pigments, Alloys.

Course 6. Analysis B.

Two Hours, One Semester.

Qualitative and simple quantative analysis. Including both tabulated methods and particular tests for metals, non-metals, and acid-radicals; volumetric analysis of Iron, Steel, Cement, Alloys, Water Analysis, Preparation of Standard Reagents, Assay of Gold, Silver, Lead. Estimation of Porosity of Brick. This Course is especially designed to meet the needs of Engineering students.

Course 7. Inorganic Chemistry.

Three Hours, One Semester.

Chemical divisibility and combinations. Atomic and Molecular weights. Multiple proportions. Volumes. Equivalents. Quantivalents, valency. Raoult's law. Decomposition of compounds. Electro-chemical series. The nascent state. Acid, basic, neutral substances. Groups. Mendelejeff's Periodic law. Equations. Non-metals and metals.

Course 8. Organic Chemistry.

Three Hours, One Semester.

Constitution, decomposition and classification of organic compounds. The hydro-carbons. Haloid derivatives. Alcohols. Andehydes. Ketones. Monobasic fatty acids. Polybasic and hydroxy acids. Ethers and esters. Carbo-hydrates. Compounds containing nitrogen. Benzine series. Aromatic compounds. Terpenes and their derivatives. Alkaloids. Proteins.

Course 9. Experimental Chemistry I.

Four Hours, One Semester.

Analytic classification of metals into different groups. Elimination of acids. Characteristic reactions and detection of metals. Qualitative analysis. The non-metals and their acids. Systematic detection of the acids. Preliminary tests and operations in systematic analysis. Blow-pipe analysis.

Course 10. Experimental Chemistry II.

Four Hours, One Semester.

Gravimetric analysis. Preliminary manipulations. Typical determinations of metals and of acids. Electro-lytic methods of analysis. Volumetric analysis. Standard and normal solutions. Indicators. Calibration of vessels. Methods based upon saturation, oxidation and reduction, precipitation. Gas analysis. Estimation of carbon, hydrogen, nitrogen, chlorine, sulphur, phosphorus, and organic compounds. Determination of molecular weights.

ENGLISH

Course 1. English Versification.

One Hour, First Semester.

Theory. Study of selected short poems, especially with a view to practice in verse making.

Course 2. Masters of Metre.

Two Hours, First Semester.

Tennyson. Swinburne. The principles of metric art and verse-harmony as exemplified in these writers, with an historic treatment of the development of English metres and verse-forms.

Course 3. Early Nineteenth Century Poets.

Two Hours, First Semester.

Wordsworth, Keats, Byron, Lectures and critical interpretations of selected poems.

Course 4. Historic Influence in Nineteenth Century Verse.

Two Hours, First Semester.

A study of the influence of history, political, philosophical, economic, literary and religious, on the poetry of the last hundred years, with copious illustrations from Wordsworth, Byron, Shelly, Tennyson, Browning, Morris, Swinburne, Francis Thompson, and Kipling.

Course 5. California Verse Writers.

Two Hours, First Semester.

A course of selected readings, criticisms, and lectures aiming at an analysis of the determining factors of California poetry and an appreciation of its quality.

Course 6. Verse Writing.

Three Hours, First Semester, One Hour Credit.

Practice in verse composition. Simpler forms. The Sonnet and other restricted forms.

Course 7. The Essay.

One Hour, Third Quarter.

Lectures and recitations. The invention, arrangement, and presentation of material. The different species, historical, philosophical, scientific, critical, etc. masterpieces.

Course 8. English and American Essayists.

Two Hours, Third Quarter.

Lectures and Reports Nature and growth of the modern literary and critical essay.

Course 9. The Short Story.

Two Hours, Third Quarter.

Nature, development, and technique of the short story, with criticisms of selected models.

Course 10. Nineteenth Century Prose Stylists.

Two Hours, Third Quarter.

A critical study and analysis of the characteristic features of the style of selected authors.

Course 11. The Magazine Article.

Three Hours, Fourth Quarter.

Nature and characteristics, with selected readings and criticisms.

Course 12. Narrative and Exposition.

Four Hours, Second Semester, One Hour Credit.

Practice in the writing of essays, magazine articles, and short stories. Supplementary to courses 7, 8, 9, 10 and 11.

Course 13. Oral Expression and Interpretation.

One Hour, Both Semesters.

Readings and memory recitations, with special regard to emphasis, rhythm, harmony and gesture. Individual training.

Course 14. The Theory of Argumentative Writing.

One Hour, First Semester.

Lectures and recitations. A course based on Aristotle, Cicero, Quintilian, and Kleutgen, and aiming at a rational exposition of the principles of oratorical reasoning and persuasion.

Course 15. Representative Modern Orators.

Two Hours, First Semester.

Readings and criticisms. A course supplementing course 14 but more concrete in scope.

Course 16. Sources and Materials in Public Speaking. Speaking.

Two Hours, Third Quarter.

Lectures and seminary work. Each student is required to gather the material for three speeches on topics assigned by the professor.

Course 17. Extempore Speaking and Brief-Making.

One Hour, Third Quarter.

A course supplementary to courses 15 and 16, and dealing with the methods and the practice of extempore speaking.

Course 18. The Speech for Special Occasions.

Three Hours, Fourth Quarter.

A practical study of the distinguishing characteristics of speeches for special occasions.

Course 19. Oratorical Composition.

Three Hours, Both Semesters, Two Hours Credit.

Weekly exercises in speech-writing with special reference to course 14.

Course 20. The Drama.

Three Hours, Fourth Quarter.

The principles of dramatical composition. Several dramas are read and analysed, special attention being given to Shakespeare.

Course 21. Special Composition.

One Hour, One Semester.

A course consisting chiefly in written work and required of all upper classmen whose writing in English is such as to make additional facilities for practice in English Composition desirable.

N.B.—Courses 3, 4 and 5 are given alternately with Course 2. Courses 9 and 10 are given alternately with Course 8. Course 20 is given alternately with Course 18.

LATIN

Course 1. Virgil—The Aeneid.

Four Hours, One Semester.

After reading books VII—XII, the poem will be studied as a whole, special attention being given to the sources, to the epic technique and literary art of Virgil and to the tracing of his influence in the literature of the world.

Course 2. Rapid Reading 1.

One Hour, One Semester.

A course intended to give to the student a broad knowledge of Roman life and literature and to facilitate the study of Latin sources.

Course 3. Latin Composition 1.

Two Hours, One Semester.

Composition in narration and description based chiefly on the text of the Aenied and implying a discrimination of the vocabulary, and syntax of prose and verse. Students will write two compositions weekly.

Course 4. The Latin Historians.

Four Hours, One Semester.

Copious readings in Sallust, Curtius, Pliny and Livy, with critical consideration of the historical works of these writers and collateral reading directed to reach an appreciation of their place in Latin literture.

Course 5. Rapid Reading 2.

One Hour, One Semester.

The complete works of Tacitus will be read in this course.

Course 6. Latin Composition, 2.

Two Hours, One Semester.

A continuation of Course 3, but based on the Latin historians.

Course 7. Cicero.

Three Hours, One Semester.

The orations studied as models of oratorical art. rapid reading, analysis, discussion, criticism.

Course 8. Horace.

Three Hours, One Semester.

The Odes Books I—IV, will be read and carefully studied. Students will memorize selected odes and portions of odes. Such phases of Roman life as are suggested will be the subject of collateral reading under the direction of the professor.

Course 9. Latin Composition.

Two Hours, One Semester.

Written work on subjects assigned by the professor will be required twice a week. Students will be expected to show facility and elegance of diction in their written work.

Course 10. Thesis.

Five Hours, One Semester.

At the beginning of the second Semester of the Sophomore year, the professor after consulting with the students shall assign to each a thesis implying copious reading in Latin. The Thesis shall be typewritten and contain at least 6000 words.

GREEK

Course 1. Simple Greek Prose.

Four Hours, One Semester.

Selections are taken from the Anabasis, Chrysostom, Plato, Gregory of Nazianzen. This course is open to those who have completed the course of Elementary Greek.

Course 2. Simple Greek Poetry.

Four Hours, One Semester.

Elegies of Gregory Nazianzen, Idylls of Theocritus, selected portions of the Odyssey of Homer. In this course, Greek life and customs are studied in detail, special attention being given to the various dialects.

Course 3. Simple Greek Composition.

One Hour, Both Semesters.

Systematic training in the writing of simple Greek, with copious imitations taken from authors studied in Courses 1 and 2.

Course 4. Greek Literature, I.

Four Hours, One Semester.

Reading of selected portions of the Odyssey and Iliad, Sophocles, Pindar, and Euripides. In this course special attention is given to the Greek epic as a whole and Greek tragedy and lyric poetry are studied in detail.

Course 5. Greek Literature, II.

Four Hours, One Semester.

Representative types of the Grecian orators, Chrysostom, Basil, Demosthenes, will be carefully read and studied as a whole.

Course 6. Rapid Reading.

One Hour, Both Semesters

Sight reading of the easier portions of the Greek historians, and written compositions in imitation.

HISTORY

Course 1. European History, 1305-1563.

Two Hours, One Semester.

Exile of the Papacy and the Great Western Schism. The Hundred Years War. The Wars of the Roses. Consolidation of the European Monarchies. The Inquisition. The Renaissance. General character of the period. The Age of Charles V. The Protestant Revolution and the Catholic Revival.

Course 2. European History, 1563-1714.

Two Hours, One Semester.

The Huguenot War in France. Philip II., Mary Stuart and Elizabeth. The Thirty Years War. The Puritan Revolution. The Age of Louis XIV.

Course 3. European History, 1714-1800.

Two Hours, One Semester.

The Hanoverian Succession. The making of Russia. Mary Teresa and Frederick II. Wars of the Suppression. The colonies in North America. The Seven Years War. The Division of Poland. Progress of the Political and Social Revolution of the Eighteenth Century. The American War of Independence. The French Revolution.

Course 4. European and American History, 1800.

Two Hours, One Semester.

The Era of Napoleon I. Catholic Emancipation in

Great Britain. The Revolution of the Barricades and of the Cabinet. The Civil War in the United States and its causes. Our own times.

Lectures on the moral, political, economic, and social aspects of these periods of history, are given twice every week. The subjects enumerated are studied in detail.

PHILOSOPHY OF RELIGION, EVIDENCES, MORALS

Course 1. The Essentials of Christian Doctrine 1.
Two Hours, One Semester.

Various Creeds. The Apostle's Creed. Each Article of the Creed is studied in particular, attention being given to any subject bearing directly on these articles, as Sin, The Powers of the Church, Infallibility, etc.

Course 2. The Essentials of Christian Doctrine 2
Two Hours, One Semester.

The Law of God. What is commanded and forbidden by the Decalogue is studied in detail. The Precepts of the Church, Grace, Prayer, and each of the Seven Sacraments together with collateral subjects.

Course 3. Truth of the Catholic Religion.
Two Hours, One Semester.

(a) **Christianity a revealed religion.** What Religion is. What Revelation is. Kinds of revelations. What revelation necessary to know truths above human ken. Man's attitude towards Revelation. Primitive, Patriarchial, and Mosaic Revelation. The Divine origin of Pre-Christian Revelation. The Christian Revelation; its origin, evidences of divinity of its origin.

(b) The Church the Dispenser of the Christian Religion. Institution of the Church. End of the Church. Constitution of the Church. Marks of the Church. The teaching office of the Church. Sources of the Church's teaching. The rule of Faith.

Course 4. Christian Dogma.

Two Hours, One Semester.

(a) God the Author and Restorer of our Salvation. The existence, nature, and attributes of God. The Divine Trinity. God, the Creator of the universe. Various grades of creation. The spiritual and material world. Man. Relation of different orders of creation to one another. God the Redeemer of the fallen man. Decree and plan of redemption. The Redeemer one person and two natures. The work of redemption.

(b) The Plan of Redemption as realized in Individuals. Grace, actual, habitual or sanctifying. The Sacraments as a mens of Grace. The Sacraments are studied in general—their matter and form,—their efficacy and the dispositions requisite to receive them validly and with fruit. Then each Sacrament is studied in detail. The Church as a means of salvation. The four last things.

Course 5. Christian Morals.

Two Hours, One Semester.

(a) Christian Morals in General. Law as the objective norm of human actions. Conscience as the subjective norm of human actions. The condition of morality. Moral good and moral evil.

(b) Christian Morals in Particular. The Christian's duties toward God,—Faith, Hope, Charity. Religion. Direct and indirect acts of worship. The Church as the controller of religious worship. Duties towards ourselves and our neighbor,—general and particular.

(c) Works of superrogation or Christian perfection.

MODERN LANGUAGES.

French

Course 1. Elemenary French I.

Four Hours, One Semester.

In this course the student is carefully drilled in elementary grammar up to the irregular verbs, attention also being given to acquiring a vocabulary of the more common words.

Course 2. Elementary French II.

Four Hours, One Semester.

A continuation of the preceding course. Special attention is given to the more important irregular verbs, the memorizing of words, and translation of French into English and vice versa.

Course 3. Intermediate French I.

Four Hours, One Semester.

A thorough review of grammar and syntax. The object of this course is to acquaint the student with the scientific vocabulary and enable him to read the more simple scientific French.

Course 4. Intermediate French II.

Four Hours, One Semester.

This course continues the work begun in Course 3. Regular exercises are given in written work and copious reading is made from the standard scientific works in order to fit the student for professional reading.

Course 5. Advanced French I.

Four Hours, One Semester.

A thorough review is made of Courses 1 and 2, by means of conversational exercises, sight reading and written exercises. Selections are read from the more noted French writers.

Course 6. Advanced French II.

Four Hours, One Semester.

A continuation of Course 5, with conversational exercises and copious readings from the French authors.

German

Course 1. Elementary German I.

Four Hours, One Semester.

Elements of German Grammar: Drill in pronunciation. Vocabulary.

Course 2. Elementary German II.

Four Hours, One Semester.

A continuation of Course 1. Syntax. Oral and written exercises. Reading from the more simple German prose.

Course 3. Intermediate German II.

Four Hours, One Semester.

Review of syntax. Translation. Oral and written exercises. Reading from the German scientific works to acquire a technical vocabulary.

Course 4. Intermediate German II.

Four Hours, Two Semesters.

Reading and written and oral exercises in technical German. This course aims at preparing the student to undertake the reading of the more difficult scientific works.

Course 5. Advanced German I.

Four Hours, One Semester.

A study of the German prose authors with copious selected reading.

Course 6. Advanced German II.

Three Hours, One Semester.

A more extensive course in German literature especially in German poetry.

INSTITUTE OF LAW

THE STUDY OF THE LAW

The study of the law is not an inquiry into many isolated and independent subjects, for these subjects are all parts of a harmonious whole, designed to secure and increase the safety and the happiness of man. It is not without reason, therefore, that its devotees claim that, next to the sacred ministry, the practice of the law is the noblest and most inspiring of pursuits since its ultimate end and object is the dispensing of justice among mankind.

THE REALM OF LAW

Law is the authoritative declaration of the rights of persons.

Wherever there is a right, there must be a correlative duty: so that when a right is declared, a duty is declared also.

Persons are (1) ARTIFICIAL: that is, corporations, political, municipal and private;

or (2) NATURAL: that is, human beings.

In considering the rights of persons we should consider

1. Their natural and constitutional rights,
2. Their common law, equity and statutory rights.

It is therefore the purpose of The Institute of Law to present the law as a complete and consistent whole: to familiarize the student with the rights of persons under the National Consitution and laws, as well as under the

Constitution of the State; including the right to personal liberty, personal security and private property. Next in order come the rights secured by the unwritten as well as the statutory law of the State, arising from the domestic relations of husband and wife, parent and child, the quasi-domestic relations of guardian and ward, executor and heir, trustee and beneficiary, and the contractual relations of master and servant, partners, bailor and bailee, principal and agent, landlord and tenant, attorney and client, and all other relations based upon an express or implied contract. Next may be considered the rights of persons in equity, and finally the machinery with which these various rights are enforced and protected, embracing pleading, evidence and practical procedure and the progress of a suit through the trial and appellate courts until it ends in the satisfaction of the judgment.

THE COURSE OF STUDIES IN DETAIL

Pursuing this theory, a panoramic view of the law is first given by a course in

ELEMENTARY LAW

covering Constitutional Law, General Law and Equity.

The various topics of the law, in the view that it is a cohesive and symmetrical whole, are then considered in the order above indicated as follows:

CORPORATIONS

Political Corporations.—The State, the County, the Township, the School, Sanitary, or other District,—Relation of Political Subdivisions—Nature, Power and Functions of these various Political Entities.

Municipal Corporations. — Nature — Capacity — Functions — Government — Police Power — Constitutional Limitations—Government by Commission—Creation—Dissolution—Power and Method of Contracting Debts—Power over Streets, Parks and Buildings—Limitation of Power—Specific Performance—Injunction—Power of Taxation—Limit of Indebtedness—Liability for Torts—Estoppel—Street Improvements, etc.

Private Corporations.—Formation of—By-Laws—Rights and Liabilities of—Stockholders—Power of Directors—Contracts Express and Implied—Liability for Torts—What Stock is—Transfer, Assessments—Sale—Ultra Vires—Remedies of Creditors—Purchase of its own stock—Dissolution, etc.

THE CONSTITUTION AND STATUTES OF THE UNITED STATES

A Nation not a Federation—the Relation of the Nation to the States—Limitations of Federal Power—Limitations of State Authority—the Deparments of the Federal Government—the Legislative Department—the Judicial Department — the Executive Department — the Sphere of Each—Actions of which the Federal Courts have Exclusive Cognizanze—Vested Rights—Removal of Causes—Writs of Error and Review—Proceedings in Bankruptcy and in Admiralty—The Process of Law—Ex Post Facto and Retroatcive Laws, etc.

Public International Law or the Law of Nations—Treaties—Comity of Nations—Extradition between Nations, etc.

Private International Law or Inter-State Law—Comity of States—Extradition between States—Conflict of Decisions, etc.

THE CONSTITUTION OF THE STATE.—Powers and Limitations of the Legislative Department—Powers and Limitations of the Judicial Department—Powers and Limitations of the Executive Department—the Bill of Rights—Protection to Personal Liberty from Unlawful Restraint or Interference—Protection of Liberty of Speech, of the Press and of Worship—Protection to Personal Security—Protection to Life and Person from Violence and Injury—Protection of Life and Health from Adverse Conditions—Protection of Reputation from Defamation and Slander—Protection to the Right of Acquiring, Holding and Enjoying Property.

These constitutional rights lead us to the consideration of Crimes, Torts and Property.

CRIMES. — Intent — Coercion — Accident — Self-Defence—Competency—Provocation—Principal and Accessory—Agency—Venue—Juries—Preliminary Examinations—Confessions—Dying Declarations—The Various Crimes and their Elements—Criminal Procedure, etc.

TORTS—A Tort may be a crime. It is a presumptively injurious invasion of the personal rights or property rights of others, from which a liability in damages results. This subject covers a very wide field and embraces a large number of highly important topics. The General View—Elements of Illegal Wrong—Malicious Injury—Grounds of Liability—Immunity of Judicial and Executive Officers—The State Can Do No Wrong—Inevitable Accident—Damnum Absque Injuria—Injury Coming from Exercise of a Right—Special Topics—Damages—Measure of—Nominal, Actual and Punitive—Negligence—Contributory Negligence—Carriers—of Persons and of Property—Libel and Slander—

Nuisance—Malicious Prosecution—Fraud and Deceit—Trespass—Strikes and Lockouts—Monopolies—Unfair Competition, etc.

The constitutional right to acquire, hold and enjoy property brings us to the subjects of real and personal property.

REAL PROPERTY.—Acquisition, Hypothecation and Alienation—Ancient Tenures—Fines and Common Recoveries—Dower and Courtesy—The Rule Against Perpetuities—Fee Simple and Fee Simple Absolute—The Rule in Shelley's Case — When Personalty becomes Realty — Easements — Eminent Domain — Incorporeal Hereditaments—Money may be Real Property—Trespass Quare Clausam Fregit—Fixtures, Fructus Naturales, etc.

PERSONAL PROPERTY.—How Distinguished from Realty—How the Same Property may be both Personalty and Realty—Personalty as to a Tenant—Realty as to an Heir—Fructus Industriales—Occupancy — Conveyance — Gifts — Bequests — Estates in Personalty—Deodands—Waifs—Treasure Trove—Forfeiture—Escheat—Pledge—Mortgage—Bailment—Products of the Mind—Patents, Copyright, etc.

DOMESTIC RELATIONS.—Husband and Wife—Marriage and Divorce—The Law of the Community—The Unequal Balance—If the Wife Dies, No Probate—If the Husband Dies, Probate—Necessity of Increasing Justice to Women—Husband Can Devise His Half—Wife Has No Similar Right—Husband's Control of the Community—Wife's Capacity to Contract, etc.

Parent and Child.—Obligation of Parent to Nurture, Support and Educate Child—Obligation of Child to

Support Parent under Certain Circumstances — When Others May Supply Food, Clothing and Shelter, and Enforce Payment, etc.

QUASI DOMESTIC RELATIONS.—Guardian and Ward—The Powers, Duties and Liabilities of Guardians—Under the Eyes of the Court—Accounts—Bonds—Management of Property—Compulsory Reports, Removal, etc.

EXECUTOR AND HEIR.—The Law of Probate—Wills—Who May Make—How to Make—Nuncupative and Holographic Wills—Codicils—Limits of Testamentary Power—How far Testator May Relieve Executor from Judicial Action—Effect of Fraud, Mistake, Duress, or Undue Influence—Construction of Wills—Advancements—Posthumous Children—The Law of Succession—Administration—The Right of Appointment—The Guidance and Control of the Court—The Widow's Support—Election to Take by Devise or Take by Law—Attempts to Avoid Probate When Upheld—When Defeated—Deeds in Last Illness—Rights of Creditors—Collateral Inheritance Tax, etc.

TRUSTEE AND BENEFICIARY.—Trusts, Express, Implied, Resulting — Constructive — Charitable Trusts—Trustees—Their Power, Duties and Liabilities—Power of Court Over—Compelling Bonds and Accounts—Suspension, Removal, etc.

We come now to the consideration of Contractual Relations and first to the general consideration of

CONTRACTS. — Express—Implied—Written—Oral—Statute of Frauds—Capacity of Parties—Consideration—Legality—Offer—Acceptance—Withdrawal — Recission—Interpretation—Impossibility, When No Excuse—

Failure of Consideration When Immaterial—When Inoperative for Fraud, Mistake, etc.

CONTRACTUAL RELATIONS

MASTER AND SERVANT.—Their Mutual Relations—Liability of Master for Injury to Servant—Assumption of Hazard by Servant—Status of Servant's Act Under Direct Command—Injury of Fellow Servant—What Acts Do Not Bind Master, etc.

PARTNERSHIP.—How Created—Development of the Law—Status of Partnership Property—Rights, Powers and Liabilities of Partners—Remedies of Creditors—Remedies of Partner Against Copartner—Dissolution—Bankruptcy, etc.

BAILMENTS. — Depositum — Mandatum—Commodatum Pignus — Locatum — Innkeepers — Post Office—Railroads—Express Companies—Telegraph Companies—Liabilities—Exoneration — Connecting Lines — Stoppage in Transitu—Measure of Damages, etc.

AGENCY.—The Appointment—Constructive Agency—Ratification, Express and Implied—Delegation of Authority—Respective Duties and Liabilities of Principal and Agent—When Principal Not Bound by Act of Agent—End of Relation—When Principal Bound Thereafter by Act of Former Agent, etc.

LANDLORD AND TENANT.—The Rights of the Tenant—The Rights of the Landlord—The Care of the Property—Improvements—Waste—Ouster—Holding Over—Unlawful Detainer—Notice to Quit, Fixtures, etc.

ATTORNEY AND CLIENT.—The Nature of the Relation—Liability of Attorney for Negligence—The Attorney's Power to Bind the Client—The Attorney's Lien for Fees

—The Privity of Parties—No Responsibility to Outside Parties, etc.

BILLS AND NOTES.—Their Legal Requisites—When Not Negotiable—Endorsement—What Releases Endorser—Consideration—Rights of Holders—Presentation — Acceptance—Dishonor—Protest—Transfer Before Maturity—After Maturity—Bona Fide Purchasers for Value, etc.

GUARANTY AND SURETYSHIP.—Distinctions between Guaranty and Suretyship—Guaranty and Endorsement—Guaranty and Warranty—Guaranties of Collection and Payment—Continuing Guaranties—Special Guaranty—General Guaranty—The Contract—Consideration—Capacity of Parties—Legality—Statute of Frauds—Interpretation—Term of Liability—Extent—Transfer—Rights of Surety—Subrogation—Sischarge, etc.

EQUITY.—History of Equity—Nature and Limits—Maxims—Their Efficacy in Actual Practice—Discovery—Specific Performance—Equitable Transformation—Notice and Its Results—Reformation and Cancellation of Instruments—Injunction—Prohibitory and Mandatory—Accounting—Partition—Marshalling of Assets—Estates of Infants, Idiots and Lunatics—Equitable Estoppel, etc.

EQUITY PLEADINGS.—Bills—Pleas—Answers—Cross Bills—Disclaimers—Motions—Decrees Nisi—Masters—Receivers—Decretal Orders—Examinations *de bene esse*—Interlocutory Decrees—Final Decrees—Caveats—Bills of Review—Bills of Revivor, etc.

THE MACHINERY OF THE LAW

PLEADING AT COMMON LAW.—The Three Kinds of Action—Oral Pleadings—Written Pleadings—Declarations, Demurrers, Pleas, etc.—The Fictions of the Law —The Various Forms of Actions—The Rules of Pleading, etc.

PLEADINGS UNDER THE CODE.—The Principles of Common Law Pleading Preserved—But One Form of Action—No Reply to Answer—The Essence of Code Pleading—Amendments to Conform to the Evidence at the Trial, etc.

EVIDENCE.—Res Adjudicata—Burden of Proof—Admissions—Presumptions—Judicial Notice—Best Evidence—Depositions—Real Evidence—Expert Evidence—Privileged Communications of Client to Attorney—Patient to Doctor—Layman to Clergyman—Capacity to Testify—Relevancy—Competency — Materiality — Evidential Papers and Records—Method and Limits of Examination—Impeachment of Witness—Contradiction of One's Own Witness—Objection to Evidence—When Too Late—Protection of Witness from Insolence of Attorney, etc.

THE PROGRESS OF A LAW SUIT.—Filing the Complaint —Issuance of Summons—Service How Made and By Whom—Appearance of Defendant—A General Demurrer—A Special Demurrer—The Process of Service—on Whom and How—The Acknowledgment—The Safest Form—The Hearing—Demurrer Sustained—Time Given to Amend Complaint—Notice to Plaintiff When Necessary and How Given—Extension of Time How Secured—Demurrer Overruled—Time Given to Answer —Notice to Defendant—Answer—Demurrer to Answer —General or Special—Hearing—Demurrer Sustained—Time Given to Amend Answer—Extension of Time By Stipulation—By Order of Court—Limit of Extensions

By Court—Motion to Set Cause for Trail—What a Motion Is—How Presented—Jury How Demanded—Putting Up the Fees—How Waived—Preparation for Trial—Conferring with Witnesses—Taking Depositions—In the State—In Another State or Country—Refusal of Witness to Answer—Issuing Subpoenas—Who May Serve and How—Limit of Subpoena's Territory—Penalty for Disobedience—Motion to Postpone Trial—How and When Presented—Effect of Negligence or Undue Delay in Moving—What Reasons Sufficient—Affidavit of Merits—Payment of Costs as a Condition.

THE TRIAL.—Statement of the Case—Drawing the Panel—Oath to the Talesmen—Examination of Talesmen—Purpose and Extent of It—Challenges—For Cause—Peremptory—Swearing the Jury to Try the Cause—The Oath to the Witness—Objection to Testimony—Motion to Strike Out—Exception: How Taken—Remedy When Answer Is Too Swift—When Exception and Motion Come Too Late—Motion for a Nonsuit—Motion to Instruct Jury to Return a Certain Verdict—Instructions—Exceptions to Instructions—Charging the Jury—Swearing the Bailiff—Returning for Further Instructions—What May Go to the Jury Room—Misconduct of Jury and Result—The Verdict—Its Form—How Presented and Recorded—Polling the Jury—Discharge of Jury—Taxation of Costs.

TRIAL BY THE COURT WITHOUT A JURY.—Motion for New Trial—Stay of Execution—Notice of Intention—Form and Service—Statement or Bill of Exceptions—Hearing of Motion, etc.

APPEAL.—Notice and Undertakings—Transcript on Appeal—Briefs—Hearing—Petition for Rehearing—

Costs—Remittitur—Execution—Notice of Sale—Sale—Satisfaction of Judgment.

The Procedure of Injunctions.—Attachments—Replevin — Review—Mandamus—Prohibition—Quo Warranto — Habeas Corpus — Election Contests, etc., will be similarly made clear. This branch — The Machinery of the Law—like most of the other courses, is under the direction of a practical attorney of long and varied experience at the bar. It will be made a special feature of the Institute.

THE METHOD OF INSTRUCTION

The method of instruction inevitably fixes the comparative value of the result. The student should solicitously seek the method which will best fit him for his practical work at the bar.

It is said that there are three systems now in vogue:

1. The Absolute Case System.
2. The Lecture System.
3. The Text Book System.

But a truer view perhaps is that there are but two systems:

1. A system by which the principles of the law are derived solely from the study and consideration of specific cases. This is the Absolute Case System;

2. A system by which the principles of the law are conveyed by means of treatises of eminent jurists or by means of lectures based in part upon the best treatises and also upon original research and personal experience. This system does not exclude the use of cases. It ememploys them, freely, but chiefly by way of illustration

and to give the student practical aid in the intelligent handling of reports and the weighing of decisions.

The Case System was inaugurated by Harvard in 1871 and the same course is pursued also in the law schools of the following universities, namely: Wisconsin, New York, North Western, Illinois, Chicago, Fordham, Cornell, Minnesota, George Washington (D. C.), Iowa, Maine, Louisville, Nebraska, Missouri, Pennsylvania, California, Leland Stanford, Jr. Also in the Hastings Law School, in San Francisco, and probably many others not heard from. In the Northwestern University we are told that each instructor employs the case system "according to his own judgment, conducting the class by lectures, discussions, recitations, written exercises, or in any way he deems best adapted to the subject."

Even Harvard, as appears from the most recent circular of that university, does not assume that the student's sole source of legal knowledge is the case book or the professor's explanations thereof; but permits and doubtless expects him to illuminate the study of the case under consideration, by the reading of the best treatises on the subject.

The second or composite system seems to be growing rapidly in favor. It is used in the following universities and law schools: The National University, Yale, Michigan, Indiana, Georgia, Mercer, Kansas, Georgetown, Catholic University, The New York Law School, Tennessee, St. Louis, Chattanooga, Vanderbilt, Albany, Loyola, Southern California, Cumberland, Notre Dame, Montana, Boston, St. Paul, Pittsburg, Colorado, Colorado College, Mississippi, Virginia, Ohio, Washington University in St. Louis, and doubtless many others. The

Cincinnati Law School is claimed as a case school but its latest catalogue contains, at page 225, a schedule of lectures covering every important topic of the law for the current school year. The New York Law School has issued a most convincing brief against the exclusive case system. The Southern Law schools in general maintain a high standard of merit and excellence. They are practically unanimous in the conclusion that it is impossible for an exclusive case system to produce a well equipped lawyer. They strongly favor the use of the ablest treatises, and surely it is not without reason that they urge that the master works of our Kents and Minors and Bishops and Wigmores, and their illustrious fellows, representing a lifetime of specially skilled labor in the critical consideration and comparison of tens of thousands of cases, should not go unutilized in the preparation of young men for the bar.

The strongest objections to the absolute case system as the sole source of legal equipment seem to be deducible from the arguments of its advocates. A student of botany would surely be unwise not to avail himself of the storehouse of facts ready at hand, crammed with the results of the life-long observations of men peculiarly fitted for the work. A student of chemistry would seem to be a promising candidate for the Home for the Feeble Minded who instead of acquainting himself with the results of probably a hundred times as many experiments as his brief course of a few years would permit him to make in a university, should attempt in that inadequate period to reconstruct for himself the grand proportions of the temple of chemical knowledge. "Ah, but he will have aid."

Then if he is to have aid, he should have the best aid and the most aid within his reach. He should possess himself of all the garnered knowledge of the science, the product, it may be, of the labors of a host of gifted men. and every step in it will but verify and illustrate a small part of what he already knows.

The medical student cannot master the science of medicine or even of surgery by mere attendance upon hospitals and could certainly never get a license to practise by that course alone. More than that, if he had first filled his mind with the medical learning of the books, the hospital experience itself would have infinitely more value and significance to him. The ordinary student of history cannot go to the sources. Such work should be done thoroughly or not at all, and for him life is too short for that. Even the professional historian must restrict his researches to a small part of the entire field. Is it not the same with the law student? If he is going to the sources merely to gain practice in dealing with decisions, a moderate amount of such work only should be done or it will seriously interfere with the main purpose of his legal course, namely: the acquisition of legal knowledge. If on the other hand that is to be his sole source of learning, then he should not merely dip his fingertips into it. He should go into it exhaustively. If he is not in any way to have the benefit of the works of the approved legal authors either directly or through the medium of lectúres, then what they all did collectively he must do singly, to reach the same results. But that is impossible, even though he gave his whole life to it. An an example, let us consider Bishop on Contracts. Here in 600 pages, based upon nearly 11,000 cases, is presented the work of a legal genius, a man of fine, analytical, judicial mind, a skilled expert, *whose opinions are the most valuable part of the work.* Compare this master work with Huffcut and Woodruff's Cases on Contract, containing 267 cases and citing 500 cases. The cases are most wisely selected, but will any one seriously contend that any amount of familiarity with this case book will give the student the knowledge of contracts he could gain from Bishop or from lectures conveying the same matter? The case book should be regarded not as a rival or substitute, but as a supplement and an auxiliary to the treatise or lecture.

The professors of The Institute of Law, who are mostly men of long experience in the practice of law, are of one mind, namely: that a fair compliance with the rule of the Supreme Court of California, which requires a knowledge on the part of an applicant for a license of Blackstone, Kent, Greenleaf, Story, Gould, Lube, Parsons and Pomeroy, demands that the results of the labors of these great workers in the vineyard of the cases and of others such as they should be given to the student; they are of the opinion that the case book should be used solely to illustrate certain principles so acquired and to give experience in the critical examination of opinions, the recognition of dicta and the ascertainment of the exact value of decisions; that it lies in the realm of practice rather than of the acquirement of legal knowledge, and that legal knowledge should be gained connectedly and as a compact and symmetrical whole. Upon any one of the authors mentioned, a long list of important questions could be framed, the answers to which would be unknown to the student of the case book on that subject, because outside of his field of knowledge—outside of the inevitable limitations of the case book. For example, the most faithful and brilliant student of the case books of Fetter, and Hoffcut and Woodruff, on Equity and Contracts respectively, could not hope to pass unscathed through a searching examination upon the text of Story on Equity Jurisprudence or of Parsons or Bishop on Contracts.

Moreover, a most important consideration is this, that the cases in the case books *were not decided for the instruction of students;* so a case containing a principle which lies at the threshold of a subject may also contain a principle which would come in the very last chapter of a treatise on that subject. Then, too, the diction of judges is intended for lawyers, not for students.

THE SPECIFIC PLAN ADOPTED

Accordingly a portion of the time devoted to each subject is, at each session, given, first, to a lecture based upon and conveying in a manner suited to the purpose, the substance of the master commentators of the law upon the special topic being presented, supplemented, when necessary, by recent decisions, showing a change or further evolution of the law. Among the writers whose renown is as assured in law as that of Euclid in geometry, no one is always and continuously pre-eminent. "Quandoque bonus dormitat Homerus." An author may be unquestionably foremost in his general treatment of a subject and yet be less satisfactory than another at one point and than still another at a second point. One may be best in the statement of a principle and the conclusions which flow from it; another most useful in the illustrations given to support the principle. It is the lecturer's province therefore to give and elucidate the best that can be gathered from *all* the masters on the subject of the lecture.

A second portion of the time is given to a brief examination upon the previous lecture and occasionally a review of all the ground traversed. A third portion is devoted to giving out facts from actual cases to be solved at the next session of the class and to hearing the solution of similar legal problems given out at a prior session. This is found to awaken a lively interest, to engrave the remembrance of principles deeply on the mind, to correct mistaken notions of their meaning, and to test and develop the student's power of applying principles to concrete facts. The benefit from this is similar to that derived from working out by one's own efforts a problem in geometry, while the case book gives him problems fully worked out. Lastly comes the case book and the most zealous advocate of the exclusive case system would be surprised to note the ground traversed and the intelligent, excellent work which can be done in this line by students *so prepared for it.* A lot of cases is not given to the whole class. Each student is given usually but a single case each time for preparation. The result is that he has his case ready with such practical perfection that all his fellows are involuntarily interested in his statement of it, and so all have the full benefit of what every one has done, and at the same time a strong spirit of rivalry and emulation is excited. Moreover, the monotony, which results from having a number of students go over the same case in immediate succession, is by this method entirely eliminated. If a doubt arises as to the true purport of a case, the minds of the whole class are turned instantly to the solution of it. By this plan, while extracting from each case all that is of use in it, no difficulty is found in advancing as rapidly with the case book as the progress of the lectures makes advisable. Indeed the ground can be retraversed (the assignments being changed) until the class is familiar with all the cases, while still keeping pace with the lectures.

THE RELATIVE IMPORTANCE OF TOPICS

To a lawyer who takes delight in the struggles of the court room, the subject of Torts, with all its ramifications of Libel and Slander, Malicious Prosecution, Trespass, Injury to Person or Property, Negligence, Contributory Negligence, Carriers and Damages, is especially interesting and especially available to further his ambition.

To one for whom the excitement of prosecuting or defending public offenses has an attraction, the subject of Criminal Law will frequently prove congenial.

He whose mind finds more pleasure in private study or who shrinks from contest will be inclined to give himself up to the mastery of Probate, Commercial or Corporation Law.

During the course, each student can readily discover the line which best suits his tastes and capacity, and after his admission to the bar specialize his further researches accordingly.

THE LAW COURSE—TREATISES AND CASE BOOKS

First Year

ELEMENTARY LAW:

General View of the Law. Constitutional Law. Common Law. Equity.

TREATISES AND CASE BOOKS:

Blackstone's Commentaries, Kent's Commentaries.

Walker's American Law, Robinson's Elementary Law.

CORPORATIONS, PRIVATE:

Stock and Stockholders. Ultra Vires, etc.

TREATISES AND TEXT BOOKS:

Clark on Corporations; Helliwell on Stock and Stockholders; Reese's Ultra Vires.

Shepard's Cases; also Wilgus' Cases, Richards' Cases, Keener's Cases.

CONSTITUTIONAL LAW:

Bill of Rights. Constitutional Limitations. Vested Rights. Unlawful Combinations, etc.

TREATISES AND TEXT BOOKS:

Black's Constitutional Law; Cooley's Constitutional Law; Story on the Constitution; Cooley's Constitutional Limitations; Myer's Vested Rights; Freund's Police Power; Eddy on Combinations.

Boyd's Cases; also McClain's Cases, Hall's Cases, Richards' Cases, Thayer's Cases.

INTERNATIONAL LAW:

Interstate Law. Conflict of Laws, etc.

TREATISES AND TEXT BOOKS:

Taylor's International Law; Rorer's Interstate Law; Minor's Conflict of Laws; Westlake's International Law and Private International Law. Lorenzen's Cases on Conflict of Laws.

EQUITY AND EQUITY PLEADING:

TREATISES AND TEXT BOOKS:

Story's Equity Jurisprudence; Fetter's Equity.
Lube's Equity Pleading.
Shepard's Cases; also Fetter's Cases, Scott's Cases, Keener's Cases.

CRIMINAL LAW AND PROCEDURE:

TREATISES AND TEXT BOOKS:

Bishop's Criminal Law and Procedure; Hughes' Criminal Law.
Beale's Cases; also Chaplin's Cases.

TORTS:

Damages. Carriers. Negligence and Contributory Negligence. Slander. Nuisance, etc.

TREATISES AND TEXT BOOKS:

Bishop's Non Contract Law; Cooley on Torts; Kinkead on Torts; Hale on Damages; Moore on Carriers; Barrows on Negligence ;Beach on Contributory Negligence; Odgers on Slander; Wood on Nuisance; Joyce on Nuisance.
Chase's Cases; also Hepburn's Cases, Russell's Cases, Ames and Smith's Cases, Wigmore's Cases, Beale's Cases, McClain's Cases, Simpson's Cases, Green's Cases, Mecham and Gilbert's Cases.

PLEADING:

At Common Law and Under the Code. Jurisdiction. Parties to Actions, etc.

TREATISES AND TEXT BOOKS:

Shipman's Common Law Pleading; Gould's Pleading; Stephens' Pleading; Bryant's Code Pleading; Bliss on Code Pleading.
Hinton's Cases; also Ames' Cases, Keen's Cases.

Second Year

CORPORATIONS, PUBLIC:

Political: The State, County, Township, School District. Municipal Corporations, etc.

TREATISES AND TEXT BOOKS:

Elliott's Elements of Public Corporations; Ingersoll's Public Corporations; Dillon's Municipal Corporations; Fiedeman's Municipal Corporations.

Beale's Cases; also Abbott's Cases, Freund's Cases, Macey's Cases.

DOMESTIC RELATIONS:

Husband and Wife. Marriage and Divorce. Property Rights. Parent and Child. Infancy.

TREATISES AND TEXT BOOKS:

Tiffany on Domestic Relations; Reek's Domestic Relations; Schouler on Husband and Wife; Bishop on Marriage and Divorce; Field on Infancy.

Holbrooks' Cases; Woodruff's Cases.

CONTRACTS:

General View of Parties, Consideration, Consent, Legality, Operation, Interpretation, Performance, Discharge, etc.

TREATISES AND TEXT BOOKS:

Bishop on Contracts; Parsons on Contracts; Anson on Contracts; Ray's Contractual Limitations; Pingrey's Extraordinary Industrial and Interstate Contracts.

Huffcut and Woodruff's Cases; also Keener's Cases, Langdell's Cases, Williston's Cases, Terry's Cases.

AGENCY:

TREATISES AND TEXT BOOKS:

Tiffany on Principal and Agent; Story on Agency; Mechem on Agency.

Huffcut's Cases; also Goddard's Cases, Mechem's Cases.

NEGOTIABLE INSTRUMENTS:

TREATISES AND TEXT BOOKS:

Byle's on Bills; Daniels' Negotiable Instruments; Bigelow on Bills and Notes; Bunker's Negotiable Instruments; Randolph's Commercial Paper.

Smith and Moore's Cases; also Bunker's Cases, Huffcut's Cases.

PERSONAL PROPERTY:

Acquisition. Gift. Bailment. Chattel Mortgage, etc.

TREATISES AND TEXT BOOKS:

Darlington's Personal Property; Child's Personal Property; Dwight on Persons and Personal Property; Jones on Chattel Mortgages; Thornton on Gifts, etc.

Finch's Cases; also Rood's Cases.

Hale on Bailments; Van Zile on Bailments; Moore on Carriers; Hutchinson on Carriers.

Goddard's Cases; also Griffin's Cases; Pattie's Cases.

REAL PROPERTY:

Title. Easements. Eminent Domain Laws. Succession. Specific Performance. Mortgages. Fraudulent Transfer, etc.

TREATISES AND TEXT BOOKS:

Minor and Wurtz on Real Property; Tiedeman on Real Property; Warvelle's Real Property; Jones on Easements; Lewis on Eminent Domain; Nichols on Eminent Domain; Pomeroy on Specific Performance; Jones on Mortgages.

Finch's Cases; also Rood's Cases, American Cases, Sharswood's and Budd's Cases, Gates' Cases.

SALES, REALTY AND PERSONALTY:

Deeds. Bills. Sale. Statute of Frauds. Judicial Sales. Tax Sales, etc.

TREATISES AND TEXT BOOKS:

Devlin on Deeds; Warvelle's Vendor and Vendee; Benjamin on Sales; Burdick on Sales; Browne on Frauds; Bigelow on Frauds; Moore on Fraudulent Conveyances; Rorer on Judicial Sales; Freeman on Sales; Black on Tax Titles; Tiffany on Sales.

Van Zile's Cases.

EVIDENCE:

Estoppel. Res Adjudicata. Collateral Attack.

TREATISES AND TEXT BOOKS:

Wigmore on Evidence; Hammon on Evidence; Greenleaf on Evidence; Jones on Evidence; Thayer's Preliminary Treatise; Browne's Parol Evidence; Lawson's Presumptive Evidence; Moore on Facts; Herman on Estoppel; Van Fleet on Collateral Attack; Lawson's Expert and Opinion Evidence.

Wigmore's Cases; also Thayer's Cases, Abbott's Cases.

Third Year

TRUSTS AND TRUSTEES:

Receivers. Referees, etc.

TREATISES AND TEXT BOOKS:

Perry on Trusts; Pound on Trusts.
Ames' Cases; Kenneson's Cases.
High on Receivers; Poor on Referees.
Alderson on Receivers.

MASTER AND SERVANT:

TREATISES AND TEXT BOOKS:

Smith on Master and Servant; Bailey on Master's Liability; Labatt on Master and Servant.

PARTNERSHIP:

TREATISES AND TEXT BOOKS:

Mechem's Elements of Partnership; Gilmore on Partnership; Lindley on Partnership.
Gilmore's Cases; Burdick's Cases; Mechem's Cases.

LANDLORD AND TENANT:

TREATISES AND TEXT BOOKS:

Jones on Landlord and Tenant; McAdam on Landlord and Tenant.

PROBATE LAW:

Wills. Administration. Executors. Guardians.

TREATISES AND TEXT BOOKS:

Rood on Wills; Gardner on Wills.
Woerner on Administration; Schouler on Executors; Woerner on Guardians.
Costigan's Cases on Wills and Administrations; Mechem's Cases, Bates' Cases on Wills.

EXTRAORDINARY LEGAL REMEDIES:

Injunctions. Mandamus. Attachment. Replevin. Review. Prohibition. Quo Warranto. Habeas Corpus. Extradition. Arrest and Bail. Election Contests.

TREATISES AND TEXT BOOKS:

Spelling on Injunction; High on Injunction; Wood on Mandamus; Shinn on Attachment; Shinn on Replevin; Church on Habeas Corpus; Moore on Extradition; Voorhies on Arrest and Bail; McCravy on Election Contest.

PRACTICAL PROCEDURE:

Depositions. Trials. Witnesses. Contempts. Juries. New Trials. Appellate Procedure. Executions, etc.

TREATISES AND TEXT BOOKS:

Bailey on Jurisdiction; Clement on Special Verdicts and Findings; Wells on Depositions; Thompson on Trials; Rapalje on Witnesses and on Contempts; Spelling on New Trial and Appellate Procedure; Freeman on Execution; Foster's Federal Practice; Moore on Removal of Causes; Loveland's Bankruptcy; Black on Judgments; Sedgwick's Statutory Construction; Wambaugh's Study of Cases, Abbott's Brief Making and Use of Law Books; Alderson's Judicial Writs and Processes; Bailey's Conflict of Decisions.

The only book needed by the student, on each topic, is the case book, printed in italics. The treatises and the other case books are utilized by the instructors as above explained. For this purpose, besides the specific case books, many general collections of leading cases are used to supply the practical problems given daily to the students.

PARLIAMENTARY LAW AND FORENSIC ORATORY

Weekly debating and practice in the forms of parliamentary order and discussion. A course calculated to familiarize the student with parliamentary procedure, and to give him ease, self-possession, force and resourcefulness in public speaking and forensic argumentation.

MOOT COURTS are conducted in connection with the course on Practical Procedure, not for the display of forensic oratory, but to familiarize the student with the machinery of a law suit and with the province of attorney, judge, clerk, sheriff, jury, etc.

TEXT BOOKS.

Robert's Rules of Order; Waple's Hand Book on Parliamentary Practice.

Robinson's Forensic Oratory.

COLLEGE OF ENGINEERING

The foundation of the College of Engineering in the University of Santa Clara was the result of repeated and urgent requests that opportunities should be given young men ambitious to follow the Engineering profession to pursue and complete the studies leading thereto in an environment and atmosphere conducive as well to deep and persevering study as to cultural and moral development.

To meet this demand the Faculty of the University has added sound and thorough courses in Civil, Electrical, Mechanical and Architectural Engineering. Each of these departments is in the hands of experienced and practical engineers who devote their whole time and attention to the success of their work. As is traditional at Santa Clara, students in Engineering are given individual care, assistance, advice and encouragement. The work exacted is of the highest type, nevertheless, owing to this individual care and to the judicious admission of students as well as the prompt elimination from the various departments of students found to be inadequately prepared in fundamental studies or in seriousness of purpose, there is very little likelihood and no excuse for the failure on the part of the student.

The demand for engineers is today greater than ever before. Owing to the vast extent of our State and of the neighboring States, as well as of Alaska on the North and the Great Mexican and Central American

Republics on the South, with which California is so intimately connected, and owing moreover to the fact that these countries are as yet comparatively undeveloped it is evident that this demand for first class engineers will go on increasing for many decades to come. Logically it is California that should supply a very great proportion of this demand. The young men of our State have, therefore a most powerful incentive to enter the engineering profession in its various branches, in which, granted a broad and thorough preparation, they are assured of success.

That this preparation can be given by mere technological schools is no longer contended. The engineer today must be more than a machinist, electrician or surveyor. He can no longer be a self-made man in the old sense. His mind must possess the acumen and culture which only a broad college training and college association can give, and his acquaintance with and love of pure mathematics and science should be the foundation on which his knowledge of their technical applications is based.

This is the ideal which Santa Clara cherishes for the engineers who shall receive their education from her.

Department of Civil Engineering

FRESHMAN YEAR

First Semester		Second Semester.	
Subject	**Hrs.**	**Subject**	**Hrs.**
College Algebra	3	Analytic Geometry	5
Trigonometry	2	French or German	4
Chemistry	7	Chemistry	7
Mechanical Drawing	9	Descriptive Geometry	9
English	5	English	5
French or German	4		

SOPHOMORE YEAR

Subject	Hrs.	Subject	Hrs.
Calculus	5	Calculus	5
Analytic Mechanics	3	Analytic Mechanics	3
Physics	7	Physics	7
Geology	2	Minerology	2
Surveying (Class)	2	Surveying (Class)	2
Surveying (Field)	4	Surveying	4
Drawing	4	Drawing	4
English	3	English	3

JUNIOR YEAR

Subject	Hrs.	Subject	Hrs.
Mechanics of Materials	4	Hydraulics	5
Masonry	6	Electricity	4
Graphics	3	Graphics	3
Differential Equations	2	Methods of Least Squares	2
Field Engnieering (Class)	2	Field Engineering (Class)	2
Field Engineering (Field)	4	Field Engineering (Field)	3
Structural Design	3	Structural Design	2
Materials Testing Laboratory	4	Materials Testing Laboratory	4
Philosophy	5	Philosophy	5

SENIOR YEAR

Subject	Hrs.	Subject	Hrs.
Roof, Bridge and other Trusses	4	Roof, Bridge and Other Trusses	4
Roads and Pavements	2	Tunneling	2
Sewers	2	Irrigation	2
Geodesy and Astronomy	2	Railway Construction	2
Concrete and Re-enforced Concrete	2	Estimates and Specifications	2
Engineering in Field	6	Engineering in Field	6
Design	4	Design	6
Business Law	1	Business Law	1
Theodicy	5	Ethics	5
Political Economy	2		

Department of Civil Engineering

Course 1. Algebra.

Three Hours, One Semester.

Complete Algebra to include quadratic equations, then more particularly: ratio and proportion, progressions, imaginary and complex numbers, indeterminate equations, binomial theorem, variables and limits, inequalities, interpretation of results, logarithms, permutations and combinations, indetermined coefficients, determinants and graphic algebra.

Course 2. Trigonometry.

Two Hours, One Semester.

Development of general formulae. Functions and their relations. Logarithms and their uses. Properties of triangles. Application of principles to practical problems in right and oblique triangles. Navigation in plane trigonometrical problems. Spherical trigonometry. Application to problems in astronomy and spherical mensuration.

Course 3. Mechanical Drawing.

Nine Hours, One Semester.

Use of Instruments. Lettering. Geometrical problems. Curves, Planes and elevations. Freehand sketching from models. Pen and ink sketches. Tracing. Simple problems in descriptive geometry. Sections and penetrations of solids. Perspective. Shades and shadows. Use of colors.

Course 4. Chemistry (theory).

Three Hours, One Semester.

Cf. College of Philosophy and Letters, Chemistry Courses

Course 5. Chemistry (practice).

Four Hours, One Semester.

Cf. College of Philosophy and Letters, Chemistry, Courses.

Course 6. English.

Five Hours, Two Semesters.

(a) Cf. College of Philosophy and Letters, English, Courses.

(b) **Special English.**

Three Hours, Two Semesters.

A course in English Rhetoric and Literature. Students who show any deficiency in English are required to take moreover the course in Special Composition in the College of Philosophy and Letters Course.

Course 7. French.

Four Hours, One Semester.

Cf. College of General Science, French Courses 1, 2, 3, 4.

Course 8. German.

Four Hours, One Semester.

Cf. College of General Science, German, Courses 1, 2, 3, 4.

Course 9. Analytic Geometry.

Five Hours, One Semester.

Loci. Lines. Circle. Different systems of coordinates. Conic sections. Supplementary propositions. Loci of second order. Plane curves of higher order. Solid analytical geometry, especially of surfaces of revolution. General equations.

Course 10. Descriptive Geometry.

Nine Hours, One Semester.

Problems in point, line, plane, curved surfaces and double curved surfaces of revolution. Intersection of planes and solids. Development of solids. Plane surface solids. Intersection of solids. Perspective. Shades and shadows. Isometric projections.

Course 11. Calculus.

Five Hours, Two Semesters.

Fundamental formulae and principles for differential and intergral calculus. Maxima and minima. Curvature. Surfaces. Volumes. Indeterminate forms. Envelopes. Series. Expansion. Forms of intergration. Practical application.

Course 12. Analytic Mechanics.

Three Hours, Two Semesters.

General theories and principles concerning matter, inertia, space and time, motion, velocity and acceleration. Momentum. Force. Measures. Comparison and representation of force. Statics: Composition and resolution of concurring forces. Conditions of equilibrium. Composition and resolution of forces acting on a rigid body. Center of gravity. Friction. Virtual velocities. Machines. Funicular polygon. Attractions. Kinematics. Rectiliniar and curviliniar motion. Kinetics: laws of motion. Motion under the action of a variable force; and in a resisting medium. Central forces. Constrained motion. Impact. Work and energy. Moments of inertia. Rotary motion. Motion of a system of rigid bodies in space.

Effort is made throughout the course to direct the attention of the student to practical applications of mathematical deductions.

Course 13. Physics (theory).

Three Hours, Two Semesters.

Cf. College of Philosophy and Letters, Physics Courses.

Course 14. Physics (practice).

Four Hours, Two Semesters.

Cf. College of Philosophy and Letters, Physics Courses.

Course 15. Geology.

Two Hours, One Semester.

Brief, but complete course in dynamical, structural and historical Geology. Particular attention is paid to structural Geology and the influences of Instructive and Engineering conditions. The student is made familiar with different stones by illustrating each recitation with specimens of the particular rocks treated, as well as their adaptability in construction, method of occurrence, etc.

Course 16. Mineralogy.

Two Hours, One Semester.

Brief course in Mineralology with access to a large collection of specimens. Determination of unlabled specimens. Crystallography. Blowpipe analysis. Includes a short course in Metallurgy. Iron ores and production of iron and steel. Percentage and effects of sulphur, silicon, maganese and carbon in iron and steel. Coals, Coke. Carbons and ash.

Course 17. Surveying. (Class Work).

Two Hours, Two Semesters.

Theory, construction, use and adjustments of tape, compass, levels and transit. Land and city surveying.

Plotting, field work and computation of areas. Division of land. Simple leveling. Complete maps.

Course 18. Surveying. (Field Work).

Four Hours, First and Second Semester.

This time is devoted to the adjustment, practically, in the field, by the student, of all instruments. Practical field work covering all matter taught in class work. The object is to thoroughly familiarize the student with the instruments and with field conditions. Field notes. Field maps. Topographical sketching without instruments.

Course 19. Drawing.

Four Hours, First and Second Semesters.

Shading by lines and colors. Topographical drawing and lettering. Conventional signs, etc. Maps of work done in field. Completed maps in pencil, pen and colors. Blue prints.

Course 20. Mechanics of Materials.

Four Hours, One Semester.

Resistance and elasticity of materials. Pipes, cylinders and riveted joints. Simple and cantilever beams. Restrained and continuous beams. Columns, shafts and girders and designing same. Torsion and shafts. Combined stresses. Strength and resilience of materials. Tension and compression. Flexure of beams. Shear and torsion. Apparent and true stresses. Plates, spheres and columns. Thermodynamics. Thermometry, Pyrometry. Calorimetry. Mechanical theory of heat. Mechanism of steam engines. Valve setting. Pumping, locomotive, gas, hot-air, hoisting and blowing engines. Steam turbines. Compressed air engines.

Analytical and graphical methods used in the solution of problems.

Course 21. Hydraulics.

Five Hours, One Semester.

Fundamental data. Hydrostatics. Theoretical hydraulics. Instruments and observations, especially meters and pressure gages. Flow through orifices. Flow over weirs. Flow through tubes and pipes. Flow in conduits. Flow of rivers. Water supply and water power. Dynamic pressure of water. Water wheels. Overshot, breast, undershot, vertical impulse, horizontal impulse and downward flow impulse wheels. Special forms of wheels. Turbines. Classification. Theory and design of turbines. Downward-flow and impulse turbines. Special devices. Naval hydro-mechanics. Pumps and pumping. Force and centrifugal pumps. Pumping engines. Other kinds of pumps. Pumping through pipes, and through hose. Hydraulic motors. Hydraulic-electric analogies. Stress is laid upon the effect of hydraulic laws upon engineering construction in or under water, especially in problems involving the impounding of water, or oil.

Course 22. Masonry.

Four Hours, One Semester.

Study of materials, stone, bricks, terra-cotta, limes, cements, sand, gravel and broken stone. Tests for each, especial attention being paid to limes and cements. Proportions and use of lime and cement mortars. Plain concrete: materials, proportions, forms for, making and placing, waterproofing, strength, weight and cost. Reinforced: beams, columns and slabs; reinforcement of each. Details of construction, including forms, placing reinforcement and concrete, removal of forms, expansion and contraction. Separately moulded members. Concrete building blocks and artificial stone. Stone cutting. Stone Masonry. Classification of stone masonry. General rules for laying. Concrete rubble. Cyclopean concrete. Strength. Brick Masonry. Strength. Construction. Waterproofing. Ordinary foundations. Bed of foundation. Designing footings. Preparing bed under different conditions. Pile foundations. Wood, concrete, reinforced concrete and steel piles. Pile driving. Bearing power. Arrangement of foundation. Foundations under water. Coffer-dam, crib and open-caisson process. Dredging through wells. Pneumatic process as used in buildings, rivers and subways. Freezing process. Masonry dams. Stability of gravity dams. Outlines of the design. Concrete and reinforced concrete dams. Liquid pressures. Causes of failure. Construction details of retaining walls. Theory of stability. Bridge abutments and piers. Culverts. Voussoir Arch. Stability of arches. Theory of arches and methods of failure. Elastic arch. Plain concrete fixed-end arches. Reinforced concrete hingeless arch. Hinged arch. Laboratory work in tests. Lectures giving further data, especially in reference to reinforced concrete and steel-concrete construction and reservoir dams.

Course 23. Graphics.

Three Hours, Two Semesters.

Principles and methods. Application to roof trusses under dead, snow and wind stresses. Complete stresses for triangular and crescent trusses. Unsymmetrical loads and trusses. Bridge trusses. Stresses due to dead, snow, wind, initial tension and live loads. Bowstring trusses. Stress loads. Locomotive wheel loads. Plate girders. Shears. Moments. Trusses with broken chords. Miscellaneous trusses. Elastic deformation of trusses. Application to other engineering structures.

Course 24. Electricity.

Four Hours, One Semester.

Application to power distribution and lighting. Varieties of lamps. Measurement of illumination. Line construction and tests. Series. Systems of wiring edifices, streets, tunnels and mines. Power stations and transformers. Electric street railways and interurban electric railways. Alternating currents. Machinery. Converters. Phases. Induction motors. Synchronisers. Long distance power lines. Construction and operation of dynamos and motors. Power plants. Electric welding and smelting. Wireless telegraph, telephone and transmission of power. Roentgen rays.

Course 25. Differential Equations.

Two Hours, One Semester.

Analysis and deductions of formulae and equations used in physics, mechanics and engineering problems. Applications of formulae and equations given in engineering handbooks to problems. Practical problems and lectures.

Course 26. Methods of Least Squares.

Two Hours, One Semester.

Study of principles and methods. Applications to solution of physical, astronomical, engineering and other problems. The student will be made familiar with this higher and more accurate method of solution of problems in his profession, especially triangulations. This course does not occupy the whole time allotted in this semester, but the additional time will be devoted to structural design.

Course 27. Field Engineering (Class Work).

Two Hours, Two Semesters.

Leveling, contour lines, hachures, cross-section work. Use of plane table. Maps of work. Stadia. Transit stadia. City, mine, hydrographic and topographic surveying. Engineering office work. Plotting profiles and cross-sections. Calculation of areas. Computation of volumes of earth work and masonry. Draughting field notes. Excavation methods in different materials. Estimate of cost. Overhaul. Application to canals, trenches, embankments, dredging, etc.

Course 28. Field Engineering, (Field Work).

Three Hours, Two Semesters.

This course consists of three consecutive hours weekly in practical surveying in the field under all the heads in the scope of the work in class. Notes. Calculations. Conditions made as nearly those of a corps in the field as possible, each student being required to fill every position in turn.

Course 29. Structural Design.

Three Hours, First; Two Hours, Second Semester.

Mechanical drawing. Design and working drawings of machinery. Design and drawing of dams in earth, stone, wood, concrete and reinforced concrete. Piers, retaining walls and abutments in different materials. Design and drawings of concrete and reinforced concrete arches, cluverts and bridges. Trestles and viaducts. Simple bridges. Problems under certain conditions are given students from which the design is to be evolved. Drawings giving in detail the structure of the design are required.

Course 30. Roof, Bridge and General Trusses.

Four Hours, Two Semesters.

Analysis and deduction of stresses in members of roof trusses under different loads. Different types of highway and railway bridges under dead loads. Live loads. Final stresses in bridge trusses. Types of American bridge trusses. Bridge bracing, members and floors. Deflection and least work. Cantilever trusses and cranes. Swing bridges. Hinged trusses. Viaducts. Principles of economic design. Details and design of pin truss bridge. Highway bridges. Railroad riveted bridges.

Course 31. Roads.

Two Hours, One Semester.

Different types of highways. Economic location of highways. Traction resistances. Gradients. Foundations. Preparing foundations. Drainage. Standard cross-sections. Natural, broken stone and other artificial roads. Materials and their adaptability to classes of traffic. Road coverings. Asphalts. Asphaltines and patented road coverings. Oils. Oiled roads. Dust prevention. Maintenance and repairs. Pavements. Paving materials. City streets. Width and cross-section, crown, gutters, curbs, footwalks and crossings. Street intersection and grades. Standard city street and street railway construction. Repairs. Lectures on improvement and changes in highway construction.

Course 32. Sewers.

Two Hours, One Semester.

Principles of design. Types. Systems and general use. Standard sewer construction in different forms and materials. Standard and power systems. Sanitary problems involved. Methods of disposition of sewage. Garbage removal and disposition. Cost estimates. Design. Lectures on problems involved.

Course 33. Tunneling.

Two Hours, One Semester.

Classification of tunnels. Locating tunnels. Economic location. Different methods employed in tunnels under various soil conditions. Excavating. Removal of excavations. Blasting. Powders. Drills and machinery used. Economic distribution of forces. Heading and bench. Linings in wood, brick, concrete and reinforced concrete. Drainage. Ventilation. Rapid transit system. City subway work and methods.

Course 34. Irrigation.

Two Hours, One Semester.

Irrigation in general. Value, cost and returns. Drainage areas. Estimation of rainfall and discharge from drainage areas. Water units and duty. Streams, flow and discharge. Measuring devices. Canals and ditches; construction, alignment, slope and cross-section. Distribution. Application of water in irrigation. Storage work. Water supply and losses. Geological conditions affecting reservoir sites. Earth and masonary dams. Details of headworks, diversion wiers, waste ways, sluices and regulators. Pumping machinery. Maintenance. Water rights. Irrigation laws.

Course 35. Geodesy and Astronomy.

Two Hours, One Semester.

Class, field and observatory work. Methods of field work to obtain accurate results. Construction, use and correction of errors in instruments. Observatory determination of latitude, longitude, azimuth and time. Field work in determining parallels and meridians. Latitude and azimuth. Transit, altazimuth and sextant and their uses. Solar transit. Triangulations and adjustments. Compass variations. Especial attention directed to use and correction of engineering instruments and their adaptability to astronomical uses.

Course 36. Railway Construction.

Two Hours, One Semester.

Much of the course is also adapted to the construction of canals, highways, levees, etc. Reconnaissance. Location. Alignment, grade and distances. Parties. Staking out work. Grading. Organization of grading parties. Methods of grading. Machines, etc. Output of men, animals and machines. Volumes. Cut and fill. Overhaul. Finishing. Revetments. Drainage areas and waterways. Culverts, size and character. Tracklaying. Tracklaying machines. Surfacing. Ballast. Single and double track roads. Side tracks, switches, crossings and yards. Round houses. Shortening lines. Operating expenses. Maintenance. General and extra gangs. Camp hygiene. Right of way. This course is largely lecture work, using standard text-books and writings for reference.

Course 37. Concrete and Reinforced Concrete.

One Hour, Two Semesters.

Lecture course supplemented by practical problems. Economic use and properties of concrete, reinforced concrete and steel concrete. Beams and theories of flexure. Columns. Retaining walls, drains, tanks, conduits and chimneys. Tests and design of arches. Materials and methods of construction in foundations, buildings, bridges and conduit work. Facing and finishing. Forms. Falsework. Reinforcement; apportioning in girders, beams, columns and slabs. Systems of reinforcement. Placing reinforcement. Waterproofing. The object is to make the student familiar with the details of this modern construction.

Course 38. Engineering in the Field.

Six Hours, Two Semesters.

Reconnaissance. Location, preliminary survey and grade stakes for highways, canals and railways. Plots and calculations from notes. Theory of railway curves; simple, compound and taper curves. Locating sidetracks, switches, yards. Cross-sectioning. Triangulation. The work is made as nearly practical as possible and covers the theories and principles taught in class work.

Course 39. Design.

Four Hours, First; Six Hours, Second Semester.

Analysis, design, estimate and drawings for a concrete or reinforced concrete dam, retaining wall, culvert or abutment. Same for a reinforced concrete bridge, either of solid arch, rib arch, girder or slab construction. Analysis, design and drawings for a trussed bent or tower in wood or steel. Analysis, design and drawings for a steel truss highway or railway bridge. In connection with this course, the student will be kept in touch with the latest methods and details of construction.

Course 40. Political Economy.

Two Hours, One Semester.

Object. Production, distribution, circulation and consumption of wealth. Production of wealth. Earth and natural agents. Labor and industry. Capital. Distribution of wealth. Individual property. Share of laborers. Circulation of wealth. Exchange. Money. Credit. Commerce. Consumption of wealth. Taxes. Applications. This course is designed to give the student a broader view of his standing as a professional man in the community.

Course 41. Estimates, Contracts and Specifications.

Two Hours, One Semester.

Principally a lecture course, but supplemented by practical problems for which estimates and specifications must be submitted. Position of engineer in construction. Duties. Estimates. Corrections. Latitude allowed. Contracts. General kinds. Special. Specifications. Definiteness. Lectures on law of contracts.

Course 42. Philosophy.

Five Hours, Both Semesters of Junior and Senior Years.

Five lectures are given every week during both semesters of the Junior and Senior years on the various subjects treated in the more lengthy courses of the College of Philosophy and Letters, q. v.

Course 43. Business Law.

One Hour, Two Semesters.

A brief course in Contracts, Sales, Negotiable Instruments, Real Estate, Partnership, Corporations and such other subjects as the professor may deem necessary or advisable.

Department of Mechanical Engineering

FRESHMAN YEAR

First Semester		Second Semester	
Subject	**Hrs.**	**Subject**	**Hrs.**
College Algebra	3	Analytic Geometry	5
Trigonometry	2	French or German	4
Chemistry	7	Chemistry	7
Mechanical Drawing	9	Descriptive Geometry	9
English	5	English	5
French or German	4		

SOPHOMORE YEAR

Subject	Hrs.	Subject	Hrs.
Calculus	5	Calculus	5
Analytic Mechanics	3	Analytic Mechanics	3
Physics	7	Physics	7
Surveying	4	Surveying	4
English	3	English	3
Drawing	4	Drawing	4
Shopwork	4	Shopwork	4

JUNIOR YEAR

Subject	Hrs.	Subject	Hrs.
Mechanics of Materials	4	Hydraulics	5
Machine Design	4	A. C. Machinery	3
Electric Laboratory	6	Steam Machinery	3
Boilers	3	M. E. Laboratory	6
Shopwork	8	Machine Design	4
Philosophy	5	Shopwork	4
		Philosophy	5

SENIOR YEAR

Subject	Hrs.	Subject	Hrs.
Thermodynamics	4	Power Plant Design	6
Design	5	Industrial Engineering	3
Structural Engineering	2	Hydraulic Engineering	3
Business Law	1	Business Law	1
Air Machinery	2	Contracts and Specifications	2
M. E. Laboratory	6	M. E. Laboratory	6
Shopwork	3	M. E. Design	4
Philosophy	5	Philosophy	5
Political Economy	2		

MECHANICAL ENGINEERING

Course 44. Boilers.

Four Hours, One Semester.

Heat; conduction, convection and radiation. Heat of evaporation. Combustion. Smoke. Quantity of air required. Methods of firing. Classification of coals, Efficiency of combustion. Boiler horsepower. Types of boilers. Furnaces. Stokers. Draft. Boiler Scale. Water purification. Explosions. Testing. Care of Boilers.

Course 45. Steam Machinery.

Three Hours, One Semester.

Properties of steam. Slide-valve. Indicator. Simple and compound engines. High speed, Corliss and marine engines. Turbines. Steam pumps. Locomotives. Valve gears. Governors. Flywheels. Balancing. Steam engine perfomance.

Course 46. Thermodynamics.

Four Hours, One Semester.

Mechanical theory of heat. First and second laws of thermo-dynamics. Perfect gasses. Saturated vapors. Superheated vapors. Hot air engine. Internal combustion engine cycles. Influence of engine cylinder walls. Friction of engines. Refrigerating machines. Injectors. Steam turbines.

Course 47. Air Machinery.

Two Hours, One Semester.

Air, gas and vapor compressors. Blowing engines. Jet blast apparatus. Hygrometric condition of air with temperature and pressure. Condensation of moisture in compressed air. Work of compression. Single and multi-stage compression. Intercooling. Effects of altitude. Volumetric efficiency. Receivers. Reheaters. Poppet, slide, Corliss and ring valves. Pressure and speed controllers. Vacuum pumps. Centrifugal fans. Rotary blowers. Air lift pumps. Air brakes. Application of principles to heating and ventilation.

Course 48. Mechanical Drawing.

Nine Hours, One Semester.

Freehand lettering. Use of instruments. Plane problems. Freehand sketching. Orothographic, isometric and cabinet projections. Tracing and blueprinting.

Course 49. Descriptive Geometry.

Three Hours, Two Semesters.

Orthographic projection of points, lines, planes, warped surfaces, etc., in the four angles of projection.

Intersections. Tangents to curves and surfaces. Developments. Practical problems in stereotomy, surveying, architecture, belting layouts, etc.

Course 50. Machine Drawing.

Four Hours, Two Semesters.

Language of Mechanical Drawing. Conventional method of representing bolts, screws and other standards. Piping. Design and detailing simple parts to take tension, compression and shear. Study of different methods of drawing and dimensioning found on commercial working drawings. Accuracy, completeness and speed are required.

Course 51. Machine Design.

Four Hours, Two Semesters.

Selection of materials for machine parts. Proper working stresses for different materials under dead, repeated and reversed loads. Determination of nature and distribution of stresses in each element of a machine. Friction. Design of such elements as crank shafts, machine frames, connecting rods, etc., when subject to tension, compression, shear, torsion, bending or any combination of these. Figuring weight and cost of manufacture. The kinematic layout of a machine for functional operation. The evolution of a design from preliminary sketch to complete working and assembly drawings,involving a study of strength, adaptability, symmetry, ease of operation, depreciation and cost of manufacture. In all this work the note-book is as important as the drawings.

Course 54. Power Plant Design.

Six Hours, One Semester.

Sites. Comparison of high-speed engines, Corpiss engines, steam turbines and gas engines. Cost and adaptability of different types of steam boilers. Condensers. Economizers. Superheaters. Pumps. Stokers. Piping. Complete layout of a plant with specifications and advertisement for bids.

Course 55. Industrial Engineering.

Three Hours, One Semester.

The economic element in shop processes. Conditions for most economic production. Functional operation of machine tools. Limits of economic production. Machines for performing specific operations. Time study. Labor saving devices in the shops. Distribution of cost of machine production between different processes, power, labor and material. Fixed charges. Layout of shops for most direct production. Layout of system of management and cost determining system.

Course 56. Hydraulic Engineering.

Three Hours, One Semester.

Action of water on curved vanes. Forces developed and effect of impact. Work done. Centrifugal action. Reaction turbines. Vane form and arrangement. Axial, radial and mixed flow wheels. Losses due to friction, shock, leakage and residual velocity. Impulse turbines. Experiments with turbines of various types. Governors. Centrifugal pumps. Theory. Radial and curved vanes. Velocity of flow. Volute. Diffuser. Guide vanes in diffuser. Impeller passages. Balancing. Losses. Efficiency. Selection and arrangement of water-wheels. Governors and auxiliary apparatus. Relation between available water supply, possible output and perfection of development work. Draft tubes. Stop valves. Gates. Vacuum and pressure relief stand pipes. Analysis of typical installations. Water power costs.

Course 57. Mechanical Engineering Laboratory.

Six Hours, One Semester.

Method of investigation. Classification of errors. Accuracy of numerical calculations. Autographic diagrams. Callibration of pressure gauges, thermometers, pyrometers, indicator springs, tachometers, planimeters, weirs, nozzles, orifices, pitot tubes, Venturi meters and dynamometers. Testing of lubricants. Density, viscosity, gumming, fire-test and cold test. Measurement of power by the prony brake, Alden brake, traction dynamometers and transmission dynamometers. Belt testing. Measurement of flow of liquids and gases by means of meters, nozzles, pitot tubes, etc. Moisture in stream by barrel, Hoadley, Barrus, throttling, separating and chemical calorimeters. Heating value of coals determined by the bomb calorimeter. Heating value of gas by Junker's calorimeter. Flue gas analysis with Orsat's apparatus. Complete tests of steam engines, boilers, gas engines, injectors, pumps and entire plants. Standard reports.

Course 58. Shopwork.

Four Hours, One Semester.

Use and care of saws, planes, square, etc. Layout of simple work from blueprints. Lathe tools and exercises in turning.

Course 59. Shopwork.

Four Hours, One Semester.

Patternmaking and foundry work. Use of shrink rule. Construction of typical solid, split and piece patterns and core boxes. Layouts from working drawings. Bench moulding. Dry sand, green sand and loam moulds. Swept work. Core making. Shop visits.

Course 60. Shopwork.

Four Hours, One Semester.

Management of forge fire. Shaping. Drawing. Upsetting. Swaging. Welding. Tempering. Die forging. Working different grades of iron and steel. Forging a set of lathe tools.

Course 61. Shopwork.

Four Hours, One Semester.

Cold-chisel, file and scraper. Work on the lathe, planer, drill, shaper, milling machine and grinder. Assembling, erecting and rigging.

Department of Electrical Engineering

FRESHMAN YEAR

First Semester		Second Semester	
Subject	**Hrs.**	**Subject**	**Hrs.**
College Algebra	3	Analytic Geometry	5
Trigonometry	2	French or German	4
Chemistry	7	Chemistry	7
Mechanical Drawing	9	Descriptive Geometry	9
English	5	English	5
French or German	4		

SOPHOMORE YEAR

Subject	Hrs.	Subject	Hrs.
Calculus	5	Calcus	5
Analytic Mechanics	3	Analytic Mechanics	3
Physics	7	Physics	7
Surveying	4	Surveying	4
English	3	English	3
Drawing	4	Drawing	4
Shopwork	4	Shopwork	4

JUNIOR YEAR

Subject	Hrs.	Subject	Hrs.
Mechanics of Materials	4	Hydraulics	5
Electric Machinery	2	A. C. Machinery	3
Kinematics	2	Steam Machinery	3
Machine Design	4	M. E. Laboratory	6
Electric Laboratory	4	E. E. Laboratory	6
Boilers	3	Illumination	2
E. E. Measurements	6	Philosophy	5
Philosophy	5		

SENIOR YEAR

Subject	Hrs.	Subject	Hrs.
Thermodynamics	4	Power Plant Design	6
Design of D. C. Machinery	5	Contracts and Specifications	2
Alternating Currents	4	Transmission and Distribution	2
Telephony	2	E. E. Design	6
Business Law	1	Business Law	1
E. E. Laboratory	7	E. E. Laboratory	6
Political Economy	2	E. E. Railways	2
Philosophy	5	Philosophy	5

ELECTRICAL ENGINEERING

Course 62. Electric Machinery.

Two Hours, One Semester.

Magnetic field. Magneto-motive force. Hysteresis. Elementary dynamo. The magnetic circuit. Armature core. Commutator. Brush shifting. Sparking at brushes and remedies. Different types of generators. Methods of transmitting, distributing and controlling direct current. Direct current series and parallel systems. Feeders and mains. High tension D. C. systems.

Course 63. Alternating Current Machinery.

Three Hours, One Semester.

Self and mutual inductance. Capacity. Impedance. Phase angle and power factor. Series and repulsion types. Synchronous motors. Induction motors, single and polyphase. Methods of starting. Speed control. Electric drive for cranes, elevators, presses, pumps, fans, mill-work, etc.

Course 64. Alternating Currents.

Three Hours, One Semester.

Electric power systems. Translating, controlling and transmitting equipment. Constant potential and constant current transformers. Efficiency, regulation and protection. Polyphase systems of generation. Two phase and three phase and conversion from one system to another. Calculation of alternating current transmission lines. Regulation of voltage. Power factor of systems. Switch-boards. Apparatus used on switch-boards. Location. Types. Pole lines. Cable and conduit systems.

Course 65. Illumination.

Two Hours, One Semester.

Methods of producing light. Characteristics of different artificial illuminants. Correct illuminating principles. Spectro-photometric measurements. Physiological measure of light energy. Flux density. Illuminometers. Effect of high intrinsic brilliancy. Redistributing of light by reflectors and globes. Voltage and candle-power. Distributing systems. Lamps. Effective lighting. Wiring. Stations. Design of lighting system.

Course 66. Transmission and distribution.

Two Hours, One Semester

Physical properties of conductors. Direct-current series and parallel systems of distribution. Feeders and mains. Voltage regulation. Three wire systems.

High voltage direct current systems. Net-work systems. Wave shapes. Inductance. Capacity. Effective values of E. M. F. and current resonance. Line inductance. Distributing capacity. Calculation of single phase circuits.

Course 67. Telephony.

Two Hours, One Semester.

The magneto-telephone. The microphone. Carbon transmitters. Induction coils. Call methods. Series and parallel circuits. Subscribers equipment. Line disturbances. Common battery systems. Exchange equipment. Party lines. Automatic systems. Combined telegraphy and telephony. Wireless telegraphy. Generation of electrical waves. Transmitting and receiving apparatus.

Course 68. Electric Railways.

Two Hours, One Semester.

Train resistance due to tracks and bearing surfaces, curves, grades and air. Acceleration and breaking. Speed-time curves. Motors for railway work. Controllers. Distribution systems. Track construction. Bonding and electrolysis. Trucks, wheels and car bodies. Conduit, storage battery and third rail systems. Electric locomotives. Multiple unit control. Testing railway equipment. Financial considerations.

Course 69. Design of Direct Current Machinery.

Five Hours, One Semester.

Electrical and mechanical theory applied to the design of D. C. machinery. Switches, heaters, controllers, etc. Complete calculations and working drawings for a dynamo or motor, to fulfill given specifications.

Course 70. Power Plant Design.

Six Hours, One Semester.

Design of a complete plant to furnish light for a city of a given size. Consideration of the elements: illumination, charges, operating expenses, income, organization and administration, reports, specifications, contracts and statistics.

Course 71. Electrical Engineering Design.

Six Hours, One Semester.

Design of alternators, transformers, induction motors and other alternating current apparatus. Thorough investigation and complete design of some unit assigned.

Course 72. Electric Laboratory.

Four Hours, One Semester.

Determination of the resistance of electric circuits. Relation between speed, field strength and voltage. Operation of shunt series and compound wound generators. Distribution of potential around commutator. Heat runs to determine load capacity. Stray power. Starting boxes. Counter electric motive force. Shunt, series, compound and differentially wound motors. Operation of shunt and compound wound generators in parallel. Distribution of load. Constant potential and constant current generators. Control of series circuits. Regulation of arc lamps.

Course 73. Electric Laboratory.

Six Hours, One Semester.

Calibration of ammeters and voltmeters. Calibration and adjustment of A. C. and D. C. watt-hour meters. Determination of resistances. Measurement of inductance and capacity. Permeability of samples of iron and steel. Determination of hysteresis. Storage batteries. Testing. Candle-power of lamps from standard candle. Cable testing. Insulation resistance.

Course 74. Electric Laboratory.

Six Hours, Two Semesters.

Alternating current circuits. Inductance, capacity, impedance, phase relation, true and apparant watts and power factor. Alternators. Magnetization curves. Losses and synchronous impedance. Synchronous motors. Methods of Synchronizing. Methods of starting rotary converters. Compounding. Calculation of efficiency. Alternators in parallel. Transformers. Regulation. Heating and efficiency. Use as induction regulators and phase changers. Wave shapes by instantaneous contact and by the oscillograph. Resonance. Methods of starting induction motors. Efficiency by brake tests. Operation of induction generator. Reports of complete tests on plants.

Architecture And Architectural Engineering

FRESHMAN YEAR

First Semester		Second Semester	
Subject	Hrs.	Subject	Hrs.
College Algebra	3	Analytic Geometry	3
Trigonometry	2	French or German	4
Chemistry	7	Chemistry	7
Mechanical Drawing	9	Descriptive Geometry	9
English	5	English	5
French or German	4		

SOPHOMORE YEAR

Subject	Hrs.	Subject	Hrs.
Calculus	5	Calculus	5
Analytic Mechanics	3	Analytic Mechanics	3
Physics	7	Physics	7
English	3	English	3
Drawing	4	Drawing	4
Elementary Design	8	Elementary Design	8

JUNIOR YEAR

Subject	Hrs.	Subject	Hrs.
History of Architecture	1	History of Architecture	1
Architectural Drawing	16	Architectural Design	12
Perspective	4	Frame Constructions	2
Shades and Shadows	2	Perspective	3
Water Colors	1	Shades and Shadows	2
Isometric Projections	1	Water Colors	1
Philosophy	5	Isometric Projections	1
		Planning	2
		Mathematical Calculations	1
		Philosophy	5

SENIOR YEAR

Subject	Hrs.
History of Architecture	1
Freehand Drawing	1
Colors	
Water Colors	
Steel frame and fire proof constructions	1
Reenforced Concrete Constructions	2
Architectural Detail and Interior Decoration	1
Sanitary Engineering and Heating and Ventilation	1
Business Law	1
Thesis	17
Theodicy	5

Subject	Hrs.
History	1
Freehand	1
Water Colors	
Steel frame and fire proof constructions	2
Strength of Materials	2
Architectural Detail and Interior Decoration	1
Sanitary Engineering and Heating and Ventilation	1
Business	1
Thesis	15
Ethics	5

ARCHITECTURE AND ARCHITECTURAL ENGINEERING

Course 75. Statics.

Five Hours, Two Semesters.

Course 76. Ancient and Mediaeval Architecture.

One Hour, Two Semesters.

Fully illustrated lectures and recitations are given on the Architectural history of these periods. The outlines of general history are studied in conjunction with the architecture of the times in order to enable the student to appreciate the relation of the people and their architecture. A careful study is made of the various examples of the great architectural styles of these times and also of painting and sculpture.

Course 77. Modern Architecture.

One Hour, Two Semesters.

A course similar to Course 18 in the history of the architecture of this period. Attention is also given to Mission and Floral styles of architecture.

Course 78. Architectural Design.

Sixteen Hours, First; Twelve Hours Second Semester.

The student is taught to draw with neatness and precision the various Orders. Free scope is given him to bring into play his designing ability. This course is a preparation for general architectural composition and aims to bring out and direct along proper channels whatever ability in designing the student may have.

Course 79. Perspective.

Four Hours, First; Three Hours Second Semester.

The more simple forms are studied until the student is thoroughly acquainted with the subject: then more complex forms are studied in perspective. This course is a scientific application of descriptive geometry.

Course 80. Water Colors.

One Hour, One Semester.

Water colors are first studied from prints, care being given to proper coloring and shading. Sketches in water colors are also made from life and in all work in India ink and colors, accuracy is strictly insisted upon.

Course 81. Shades and Shadows.

Two Hours, Two Semesters.

The purpose of this course is to teach the student the nature of casting architectural shadows according to the laws of descriptive geometry. No haphazard shades or shadows are accepted. All work in this course must be mathematically accurate.

Course 82. Planning.

Two Hours, One Semester.

At first simple problems are given to enable the student to express his ideas on paper. He is taught the principles of design and their application. Problems are given him in different materials.

Course 83. Calculation of Architectural Areas and Volumes.

One Hour, One Semester.

This course give mathematical accuracy to the estimation of the various calculations of excavation, the areas of walls, ceilings and vaults; and the volumes of piers and walls.

Course 84. Freehand Drawing.

One Hour, Two Semesters.

Drawings are made from casts and afterwards from life. In all drawings precision and neatness in freehand work is demanded.

Course 85. General Construction.

One Hour, One Semester.

A course intended to give the student the fundamental notions. Foundations are studied and their adaptability to various soils. Manufacture of lime and cement; bricks and their manufacture; stone quarrying and dressing.

Course 86. Frame Construction.

Two Hours, One Semester.

After the course in general constructions, constructions in frame of wood, stone and brick are carefully studied.

Course 87. Steel Frame Construction.

One Hour, One Semester.

A special course in frame construction of steel.

Course 88. Stone and Fireproof construction.

One Hour, One Semester.

Different varieties of stone and terra cotta, and their use in the various forms of architecture. General problems of construction with various stones.

Also the different varieties of fire-proofing material and the methods of fire-proof building.

Course 89. Reinforced Concrete Construction.

Added opportunities for studying this form of building is afforded at the University as the new buildings that have been erected and others to be erected are of reinforced concrete. General building plans of reinforced concrete. Various forms of reinforced concrete.

Course 90. Strength of Materials.

This course covers the derivation and use of formulae in dimensioning architectural structures. Numerous problems are assigned to give the students speed and accuracy in the manipulation of formulae. The laws of stresses and deformations of materials are discussed and methods for determining the shearing forces and bending moments in beams are explained. These calculations are made by means of higher mathematics and graphic statics.

Course 91. Architectural Detail and Interior Decoration.

One Hour, Two Semesters.

Students are taught the designing of fire places, stairways, halls, ceilings, wainscoting and the like. Also such ornamental designs for interior or exterior work that will bring into practice what he has learnt of the various styles of architecture and their combinations. Plans are made of these in various scales.

Course 92. Sanitary Engineering.

One Hour, One Semester.

The draining and sewage of buildings, traps and systems of trapping, plumbing, fixtures, sewage removal and disposal, improved methods of house drainage and sanitary plumbing. Tests.

Course 93. Heating and Ventilation.

One Hour, One Semester.

The general principles of ventilation. Methods of ventilation. Designing of systems. Heating. General principles and methods.

Course 94. Estimates and Specifications.

Clauses of the specifications which relate to trades in general and special specification of the various trades. Arrangement of the parts of the specification.

Forms of Contract and General business estimates. General and Particular Estimates.

Course 95. Business Law.

A short course in Contracts, Sales, Negotiable Instruments, Real Estate, Partnership, Corporations, and other cases of business that are apt to arise in the work of an architect and engineer.

Course 96. Thesis (Architectural Plans).

Eighteen Hours and Fifteen Hours, One Year.

A subject covering all the work of the four years. All the plans and specifications and estimates are to be original. All the drawings and details neat and accurate.

THE SCHOOL OF PEDAGOGY

The growing demand for young men in the teaching profession, in which male teachers are comparatively few, is being met by the Colleges and Universities of the United States in various ways.

The University of Santa Clara has not neglected to do her part in this work, though for the most part her graduates who have entered the teaching profession have found congenial employment in the Preparatory or High School of the University. With the growth of the teaching profession and the increased demand for male teachers and the increased salaries offered to teachers, it is but natural that in the coming years an ever increasing number of young men will elect to follow this noble calling which possesses such a fascination for men who have the gifts requisite for such a work.

The University offers the following special courses in pedagogy. The student will find in them in due proportion the history, theory and practice of education. The practical work in education is conducted in the Preparatory Department of the University, under the direction of experienced teachers.

Course 1. History of Education.

Three Hours, One Semester.

A historical treatment of the various systems of education in ancient, mediaeval and modern times.

Course 2. Systems of Education.

Two Hours, One Semester.

A study of the principal systems of education. The various principal systems are first studied by themselves and then a comparative study is made.

Course 3. Educational Psychology.

Three Hours, One Semester.

A brief course in psychology and the bearing of certain psychological facts on the work of education. Mental development. Instincts. Individuality.

Course 4. Child Study.

Two Hours, One Semester.

A special course in the psychology of childhood. Physical and mental development.

Course 5. Philosophy of Education.

Two Hours, One Semester.

The definitions of education. False notions of education. The principles underlying all education.

Course 6. Education in Theory and Practice.

Two Hours, One Semester.

A more detailed study of the theory of education; educational methods. Actual practice in the classroom.

Course 7. Classroom Management.

Two Hours, One Semester.

Discipline. Order. Forms of discipline. Factors in discipline.

Course 8. High School Administration.

Two Hours, One Semester.

History and place of the High School in the American Educational System. Programs of studies. Divisions of time. Order of Classes. Marking of pupils. Records. Reports. Texts Teachers.

THE PRE-MEDICAL COURSES

This course offers those studies in chemical and biological sciences which are required for admission to the best schools of medicine. A period of two years is needed to complete this course and it is open to students of the Junior and Senior years only.

Course 1.

Four Hours, One Semester.

General Biology. Properties of living matter, its development and structure as exemplified in selected types. Main animal groups.

Course 2.

Four Hours, One Semester.

Important parasites. Phenomea of development as observed in fishes, amphibia and the chick.

Course 4.

Four Hours, One Semester.

Vertebrate anatomy, especially of mammalia. Anatomical technique.

Course 4.

Four Hours, One Semester.

Embryology and Histology.

Course 5.

Three Hours, One Semester.

Theory of organic compounds. Methods of analysis. Preparation of synthetic compounds.

Course 6.

Three Hours, One Semester.

Food analysis. Practical methods of physiological chemistry. Relation of chemical processes to toxicology and pharmacy.

All these courses are given with copious laboratory experiments.

HONORARY DEGREES

19[illegible]

THE DEGREE OF

DOCTOR OF LAWS

WAS CONFERRED UPON

Curtis Holbrook Lindley
William George Lorigan

THE DEGREE OF

DOCTOR OF PHILOSOPHY

WAS CONFERRED UPON

Reverend Joseph Patrick McQuaide

DEGREES IN COURSE

THE DEGREE OF

BACHELOR OF LAWS

WAS CONFERRED UPON

John Wallace Ryland (Cum Laude)

THE DEGREE OF

MASTER OF ARTS

WAS CONFERRED UPON

Norman Hardin Barrry (Cum Laude)
Thomas Raymond Riordan

THE DEGREE OF

BACHELOR OF ARTS

WAS CONFERRED UPON

John Francis Curry (Cum Laude)
Royal Andrews Bronson (Cum Laude)
Loring Davidson Powell (Cum Laude)
Herbert Leo Ganahl
Daniel Raphael Holm
Martin Paul Detels
Christopher Aloysius Degnan
Frederich Otto Hoedt
William Peter Veuve
Paul Raymond Leake
Harry Gallagher

THE DEGREE OF

BACHELOR OF SCIENCE

WAS CONFERRED UPON

Marco Samuel Zarick
Harry Hill Wildy
John Joseph Hartmann
Chauncey Francis Tramutolo
Louis Joseph Canepa
Robert Michael Hogan
Angelo Dominic DiFiore

PRIZES

Nobili Medal. An annual prize of $60.00 founded in 1876 by Joseph A. Donohue, Esq., of San Francisco, in honor of the first President of the University of Santa Clara, Father John Nobili, S. J., to be given to the student who shall be deemed first in morals, obedience and application to study, was awarded this year to Paul R. Leake. Deserving special mention: Loring D. Powell, Fred O. Hoedt, Roy A. Bronson, Louis J. Canepa, Dion Holm, Chauncey Tramutolo, Chris A. Degnan, Chris Momson, James J. McGrath, Thomas McKey, Charles Morrell, Joseph Arburua, Aloysius J. Diepenbrock, Harry McGowan, Joseph Thomas, Stephen White, Louis Cholvin, Harold W. McKinnon, Louis Milburn, Frank G. Boone, Joseph Kane, Michael Leonard, Benjamin Schnereger, Edwin B. Haskamp.

Junior Nobili Medal. An annual prize of $35.00 founded in 1898 by Michael H. Kelly, Esq., of San Francisco, to be given to the student in the Junior division who shall be deemed first in morals, obedience and application to study, was this year awarded to Joseph Ramon Aurrecoechea. Deserving special mention, Joseph R. Parker, Thomas H. Davis, Nicholas J. Martin, Percy A. Hughes, Thomas F. Kearns, Julius A. Robasciotti, Mark A. Falvey, John F. Mahan, Claude B. Sweezey, Richard J. Howard.

Archbishop's Medal. An annual prize of $50.00 donated by His Grace Most Reverend P. W. Riordan, D. D., for the best examination in Christian Doctrine was awarded this year to Richard V. Bressani. Deserving special mention, Loring D. Powell, Aloysius I. Diepenbrock, Frederick O. Hoedt, Harry W. McGowan, Joseph R. Parker, Ernest W. Schween, Nicholas J. Martin.

The Owl Medal. An annual prize of $25.00 founded by the directors of the former College Magazine, " The Owl",to be given to the winner of the contest in Dramatic Art in the College Department was this year awarded to Harry William McGowan. Deserving special mention Bernard Budde, Percy O'Connor, Edward B. Ford.

The Ryland Medal. An annual prize of $25.00 founded in 1897 by the Hon. C. T. Ryland, of San Jose, to be given to the student who may be deemed by the College most fit for the prize, has been set aside for the student who shall be judged to have distinguished himself most in the Annual Ryland Debate, and was this year awarded to Percy O'Connor. To Harry W. McGowan and Herbert L. Ganahl are awarded the purses, the gift of John W. Ryland, of San Jose. Deserving special mention, Roy A. Bronson, Rodney A. Yoell, Christopher A. Degnan.

The Barchi Medal. An annual prize of $25.00 presented by Joseph M. Durney, Esq., of San Francisco, in honor of Father Caesar A. Barchi, S. J., to be given for the best paper on some scientific subject as shall be determined by the Faculty, was this year awarded to Royal Andrew Bronson. Deserving special mention , Loring D. Powell, John F. Mahan, John F. Curry, William P. Veuve, Martin P. Detels, Joseph J. Hartmann, Harry S. Curry.

The Redwood Medal. An annual prize of $25.00 founded in 1908 by the executive committee of The Redwood is this year given for the best Essay and was awarded to Louis J. Cholvin. Deserving special menmention, Victor A. Chargin, Harry J. Wildy.

The McCann Medal. An annual prize of $25.00 founded in 1894 in memory of Daniel J. McCann, B. S., '84, to be given for the best short story, was awarded to Rodney .Yoell. Deserving special mention, Benjamin R. Hewitt, Harold R. McKinnon, Christopher A. Degnan.

The Junior Elocution Medal. An annual prize of $25.00 for the winner of the elocution contest in the High School department, is awarded to Thomas Ambrose O'Connor. Deserving special mention Joseph R. Aurrecoechea, Louis P. Jennings, William A. Donovan, Nicholas J. Martin, Errol V. Quill, Lester C. O'Connor.

HONORS

Royal A. Bronson (7), John F. Curry (4), Loring D. Powell (4), Ervin E. Best (3), Christopher A. Degnan (3), Frederick O. Hoedt (2), Louis J Canepa (1), Paul R. Leake (2), William P. Veuve (1), Leo H. Ganahl (1), Aloysius I. Diepenbrock (4), Richard V. Bressani (2), Percy O'Connor (2), Harry S. Curry (2), Bardley V. Sargent (2), Demetrio Harkins (1), Constantine M. Castruccio (3), Frank G. Boone (8), Stephen M. White (2), Albert J. Newlin (1), Louis J. Cholvin (8), Harold R. McKinnon (8), Nicholas J. Jacobs (1), Henry P. Wilkinson(1), Oscar Kohner (2), Benjamin B. Hewitt (1), Joseph Kane (4), Philip Martin (5), Louis T. Milburn (4), Philip J. Twohy (1), Edward B. Ford (1), John Dolan (1), Joseph R. Parker (5), Michael J. Leonard (1), John F. Mahan (2), Joseph M. Arburua (1), Edward Walsh (3), Orvis Speciale (1), George A. Craner (1), Nicholas Martin (1), A. F. McCabe (3), Joseph R. Aurrecoechea (2), Claude B. Sweezey (3), E. E. Nino (1), G. E. Heiniger (1), Thomas A. O'Connor (1), E. L. Nicholson (3), E. R. Harter(2), Thomas W. McKey(1), Edward O'Neil (1), J. E. Clarke (1), Lester C. O'Connor (1), Earnest Schween (3), J. R. O'Neil (3), L. Blinn (2), Parmer V. Dewitt (2), Thomas F. Kearns (4), Charles F. Martin (1), Emil J. Trabucco (1), Demetrio Diaz (2), M. J. Selaya (1), G. M. Callanan (1), Frank W. Schilling (1), William A. Gianella (1), J. J. Greer (2), Joseph Cabral (4), Harry Jackson (1), J. P. Connell (2), A. J. O'Connor (2), Guy Voight (2), Harry G. Whelan (1), W. M. Kennedy (1), Gove C. Celio (2), Ira F. O'Neil (1).

DISTINCTIONS

Hardin J. Barry (3), John F. Curry (3), Louis J. Canepa(2), Frederick O. Hoedt (6), Martin P. Detels (3), Paul R. Leake (2), Christopher A. Degnan (3), Loring D. Powell (1), Joseph J. Hartmann (1), Royal A. Bunson (2), William P. Veuve (4), J. F. Ryan (5), Harry S. Curry (4), Marco S. Zarick (3), Dion R. Holm (3), Herbert L. Ganahl (3), Chauncey Tramutolo (3), Albert J. Newlin (4), Stephen S. White (3), Bradley Sargent (2), Harry W. McGowan (4), Richard V. Bressani (2), Constantine Castruccio (3), E. Fitzgerald (2), Aloysius Diepenbrock (4), O. Nino (3), Demetrio Harkins (2), Stephen M. White (3), Edward White (5), Percy O'Connor (2), W. J. Lyng (1), Nicholas J. Jacobs (2), E. .W Carlin (7), Victor A. Chargin (4), J. M. Concannon (2), Harry P. Wilkinson (4), P. L Beck (1), Rodney A. Yoell (3), Edwin I. Booth (1), Benjamin R. Hewitt (2), A. E. Berryessa (1), J. Kane (3), James Fitzpatrick (2), J. Connell (2). John Dolan (6), C. Acquisapace (1), E. B. Ford (4), H. Crane (4), Guy Voight (2), Louis Milburn (4), Thomas Plant (2), Emmet McCarthy (2), Chester A. Palmtag (3), Philip Twohy (1), H. Cleghorn (1), Chris Momson (2), J. A. Ramage (1), R. Ryan (3), Vincent Chipongian (3), Philip Martin (2), Adolph Canelo (1), John F. Mahan (3), James McGrath (2), Nicholas H. Martin (2), Robert M. Salazar (3), G. A. Craner (2), E. Walsh (2), Percy A. Hughes (2), Charles F. Falvey (2), William S. Cannon (3), Joseph A. Noonan (2), W. V. Herrin (1), Joseph Arburua (2), Harold J. Palmtag (2), R. G. Ramos (3), Joseph R. Parker (1), Orvis Speciale (1), F. G. Artana (1), W. A. Donovan (1), Louis P. Jennings (1), E. E. Nino (3), Claude P. Sweezey (1), A. B. Erigero (3), R. Purdy (2) E. J. Ferrario (1), Harry G. Whelan (1), Peter Barbettini (1), H. T. Wentz (1), J. L. McCauley (2), Francis J. Dougherty (1), J. H. Mitchell (1), B. E. Schnereger (1), Harry K. Lorigan (2), J. R. Aurrecoechea (4), A. F. McCabe (2), Charles R. Sullivan (2), W. M. Kennedy (1), Harry A. Harkins (1), E. A. Koch (4), N. McCarthy (4), T. H. Davis (3), E. O'Neill (3), E. L. Nicholson (1), J. E. Clarke (1), J. W. Loupe (2), T. W. McKey (3), Lester C. O'Connor (3), Edwin R. Harter (2), Victor J. Leininger (2), D. J. Ryan (1), Michael J. Leonard (3), Lewis Blinn (4), Mark A. Falvey (5), Anthony A. Falvey (2), Palmer DeWitt (4), F. W. Schilling (3), M. J. Salaya (3), J. R. O'Neill (3), Lionel J. Conaty (2), L. J. Lucas (1), G. M. Callanan (1), W. Bush (1), P. M. Zaput (1), J. J. Stamp (4), G. A. Pancera (4), J. Cabral (2), L. P. DiFiore (1), Nicholas Korte (4), Walter Howard (3), R. W. Callahan (1), Harry D. Jackson (4), J. J. Greer (2), C. Partridge (2), Edward A. Amaral (1), C. F. Martin (1), G. Von Raesfeld (1), B. Boedefeld (1), J. D. Sternes (1), G. G. Doyle (1), Thomas F. Kearns (2).

LIST OF STUDENTS

911-12

Acquistapace Columbus Samuel	Freshman
Artana Joseph Carl	Sophomore
Biaocchi Adoplh John	Sophomore
Bale, John Edward	Freshman
Boone Frank Griffen	Freshman
Booth, Edwin Sebastian	Sophomoer
Bronson Roy Andrews	Senior
Beach, James Elliot	Sophomore
Beck Paul Leo	Sophomore
Berreyessa Antone Elmer	Sophomore
Bressani, Valentine Richard	Junior
Budde, Bernard F.	Senior
Canepa Louis Joseph	Senior
Carlin Edwin William	Sophomore
Castruccio Constantine Michael	Junior
Chipongian Vincent	Special
Cholvin, Louis Joseph	Sophomore
Cleghorn Hial Joseph	Freshman
Concannon John Martin	Sophomore
Connell James Pierre	Freshman
Caspers Rudolph William	Sophomore
Chargin Victor Anthony	Sophomore
Crane Howard Edward	Freshman
Curry Harry Samuel	Junior
Degnan Christopher Alaysius	Senior
Demartini, Joseph Francis	Sopohomore
Diepenbrock Aloysius Ingnatius	Junior
Dolan John Philip	Freshman
Detels Martin Paul	Senior

DiFiore, Charles Frederick	Sophomore
DiFiore, Angelo Dorminic	Senior
Fitzpatrick James Peter	Freshman
Ford Edward Byron	Freshman
Fitzgerald Eugene Paul	Junior
Ganahl Herbert Leo	Senior
Gianelli Albert James	Freshman
Hardy, Bert Mallot	Junior
Hatch William	Special
Hoedt Frederick Otto	Senior
Hogan Robert Michael	Senior
Holm Dion Raphael	Senior
Harkins, Dimetrio	Junior
Hartmann John Joseph	Senior
Hewitt, Benjamin Rolla	Sophomore
Jacobs Nicholas Joseph	Sophomore
Kohner Oscar	Sophomore
Kane Joseph	Freshman
Leake Paul Raymond	Senior
Lyng Walter James	Junior
Lynn George Ignatius	Freshman
Martin John Francis	Freshman
Martin Philip Martin	Freshman
McGowan Harry William	Junior
McKinnon, Harold Rickart	Sophomore
Melchoir, Michael Joseph	Sophomore
Milburn Louis Joseph	Freshman
Monson Chris Aloysius	Freshman
Morell Charles Richard	Freshman
Macaulay Thaddeus W	Freshman
McCarthy Emmett Daniel	Freshman

Nino, Oliver	Junior
Orena Alfred Victor	Freshman
O'Connor Arthur John	Sophomore
O'Connor Percy Claude	Junior
Palmtag Chester Allen	Freshman
Plant Thomas Raymer	Freshman
Powell Loring Davidson	Senior
Ramage James Artison	Freshman
Ryan James Francis	Junior
Ryan Robert Emmett	Freshman
Sheehy John Frederick	Freshman
Salazar Joseph	Junior
Smith James W	Freshman
Sargent Bradley V	Junior
Stewart, Archibold P	Freshman
Twohy, Philip Joseph	Freshman
Tramutolo, Chauncey Francis	Senior
Thomas, Joseph Leo	Junior
Voight, Guy	Freshman
Veuve, William Peter	Senior
Van Leeween	Freshman
White, Edward Gerald	Senior
White, Stephen Mallory	Junior
Wildy, Harry Hill	Sophomore
Wilkinson, Philip Henry	Sophomore
Ybarrondo, Thomas Bartholomew	Sophomore
Yoell, Rodney Alexander	Freshman
Zarick, Marco Samuel	Senior

Preparatory Department

Acronico, Charles John	First Year
Ahern, John Francis	Fourth Year
Allen, Joseph Earnest	Second Year
Amaral, Edward A	First Year
Aplustill, Ernest	First Year
Artana, Francis George	Fourth Year
Arburua, Joseph Michael	Fourth Year
Aurrechochea, Joseph Ramon	Third Year
Bachrach, Arthur Edward	Second Year
Baker, Francis	First Year
Baldwin, John	First Year
Balfour, Francis Clyde	Fourth Year
Bean, James Edwin	Second Year
Berger, Erle	Third Year
Baldassini, Henry Adolph	First Year
Barron, William Stanton	Second Year
Barbettini, Peter	
Bartley, William Alexander	Third Year
Bell, Vernon Thomas	Second Year
Bergez, Louis John	First Year
Bennison, Harry	Fourth Year
Bessolo, Michael Angelo	Third Year
Blinn, Louis William	First Year
Boedefeld, Bernard Scott	First Year
Bush, William Joseph	First Year
Butler, Harry	First Year
Bettens, Thomas Ricks	Third Year
Blake, Arthur Francis	Second Year
Brewer, Walter Collins	Second Year
Burgin, Alphonse Francis	Third Year

Burns, William Ervin	First Year
Cabral, Joseph	First Year
Callanan, Raymond Walter	First Year
Cannon, William Stewart	Fourth Year
Callahan, George Michael	First Year
Carson, Walter Lloyd	Third Year
Casey, Thomas	First Year
Conaty, Lionel John	First Year
Crooks, Ralph Raymond	First Year
Cullen, John Paul	First Year
Cunningham, Hugh McElroy	First Year
Celio, Gove Clarke	Fourth Year
Clarke, Hugh Russel	First Year
Craner, Gerald Anthony	Fourth Year
Collins, Charles Wilbur	First Year
Conover, John Simpson	First Year
Davis, Thomas Hart	Third Year
Dewitt, Palmer	First Year
Diaz Demetrio	First Year
Degnan Christopher Aloysius	Senior
Dias, Frank	First Year
Dodge, Claude Peter	First Year
Dolan, Frank Joseph	First Year
DiFiore, Carlo Frederick	Fourth Year
DiFiore, Leopold Peter	First Year
Doan, Kenneth William	Fourth Year
Donnelly, George Daniel	Second Year
Doran, William Patrick	First Year
Daingerfield, Francis Pierce	Second Year
Davies, Donald	Fourth Year
Donovan, William Abel	Fourth Year
Doyle, George Gregory	First Year

Dougherty, Francis Xavier	Fourth Year
Edwards, Alton	Third Year
Emerson, Roy	Fourth Year
Erigero, Anthony Bernard	Third Year
Falvey, Arthur Aloysius	First Year
Falvery, Charles Francis	Fourth Year
Falvey, Mark Anthony	First Year
Feehan, Frank	Second Year
Fessler, George	First Year
Ferrario, Edward Joseph	Third Year
Fitzpatrick, Benjamin Willian	Fourth Year
Gaffey, William Tracy	First Year
Geoghegan, John	First Year
Geoghegan, Rudolph	First Year
Gale, John William	First Year
Gianotta, Joseph	First Year
Gianella, William Augustus	First Year
Gavigan, John Daniel	Second Year
Ginocchio, Andrew Louis	Third Year
Grant, John Watson	Third Year
Guerra, Francis Paul	Second Year
Gilman, Daniel Arthur	Second Year
Greer, John William	First Year
Harter, Edwin Rea	Second Year
Hill, Albert	First Year
Howard, Richard Craig	First Year
Hughes, Percy Anthony	Fourth Year
Haskamp, Edward Bernard	Second Year
Herrin, William Van Chief	Fourth Year
Heininger, George	Third Year
Harkins, Henry Augustus	Third Year
Heple, Ralph	First Year

Howard, James Leo	First Year
Howard, Walter Matthew	First Year
Jackson, Harry Dalton	First Year
Jackson, Walter Sullivan	Third Year
Joyce, Thomas Molloy	First Year
Jacobs, Francis Carl	First Year
Kearns, Edmund Judge	Second Year
Kearns, Thomas Francis	First Year
Kavanagh, Alfred Leo	Fourth Year
Koch, Edwin A	Second Year
Lamarra, Anthony	First Year
Lamkin, Lester William	First Year
Loupe, James Rea	Second Year
Larrouy, Emil Pasteur	Third Year
Leininger, Victor Joseph	Third Year
Lucas, Leo John	First Year
Leonard, Michael James	Fourth Year
Lettunich, Nicholas	Fourth Year
Lockhart, Thomas Julian	Second Year
Lorigan, Harry Kenneth	Third Year
Mahan, John Francis	Fourth Year
Mayle, Raymond Joseph	First Year
Martin, Nicholas Joseph	Fourth Year
McKnight, Edwin James	Second Year
Monroe, Marcus Clifford	First Year
Maderas, Alfred	First Year
Martella, William	First Year
Mulcahy, Joseph Virgil	First Year
Murphy, John	First Year
MacCauley, Leo J	Second Year
McCabe, Arlington Francis	Third Year
McCarthy, Neal	Second Year

McGrath, James Joseph	Fourth Year
McKey, Thomas	Second Year
McCarthy, Alvin	First Year
Murphy, Raymond	First Year
Martin, Charles Frederick	First Year
Mitchell, Joseph Harold	First Year
Morrell, Charles Richard	Special

Nash, Joseph	Second Year
Nelson, Carl Robert	First Year
Nino, Edward E	Third Year

O'Brien, Elmer Bertrand	First Year
O'Brien, Frank Phillip	Fourth Year
O'Connor, Thomas Ambrose	Third Year
O'Connor, Edward	Fourth Year
O'Connor, Lester Carl	Second Year
O'Neill, Edward	Second Year
O'Neill, John Rudolph	First Year
O'Neill, Ignatius T	Fourth Year
O'Neil, John	First Year
O'Neil, Ira Francis	First Year

Pancera, George Augustus	First Year
Partridge, Charles	First Year
Purdy, Ralph	Third Year
Parker, Joseph Raymond	Fourth Year
Peck, Lodare Aldrich	First Year
Pradere, Albert Michael	Third Year
Palmtag, Harold William	Fourth Year
Parra, Michael	First Year
Parton, Joseph Albert	First Year
Preciado, Harry	Special

Quill, Errol Vernon	Third Year

Robasciotti, Julius	First Year
Rickel, Joseph Balthazar	First Year
Rosenthal, Errol Vladamer	Fourth Year
Ragan, George Anthony	Fourth Year
Ramos, Richard George	Fourth Year
Riordan, Harold	First Year
Russell, Glenn	Fourth Year
Ryan, Daniel J	Second Year

Samaniego, Arthur Valentine	Special
Schween, Earnest William	Second Year
Schilling, Francis Walter	First Year
Sternes, George Duncan	First Year
Sturgeon, Wallace Ezra	First Year
Sweezey, Claude Bernard	Third Year
Schuppe, Charles James	Second Year
Sheehy, Gerald Francis	First Year
Sullivan, Charles Richard	Third Year
Salazar, Robert M	Fourth Year
Sargent, Stanley Graham	Second Year
Salaya, Manuel J	First Year
Silvera, George	First Year
South, Charles Daniel	Fourth Year
Speciale, Orvis	Fourth Year
Stamp, John Joseph	First Year
Stern, Bruce Marcus	Third Year
Stojanovich, Anthony Nicholas	First Year

Terreros, Vincente Romero	First Year
Trabucco, Emile John	First Year
Trabucco, Eugene J	Fourth Year
Treloar, William Halfield	Fourth Year
Taminelli, Lester	First Year
Thomas, Ervin R	Fourth Year

Viosca, Joseph Eugene	Special
Vatuone, Romolo	First Year
Volkers, William Keith	First Year
Von Raesfeld, Goswin	First Year
Widemann, Honory Alfred	First Year
Wadams, Wilbur E	Second Year
Walls, Harold Aloysius	First Year
Walsh, Edwin	Fourth Year
Wentz, Henry Edward	Fourth Year
White, George Ivers	Third Year
Zaput, Pedro Manuel	First Year

PREPARATORY DEPARTMENT

FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
Subject	Hrs.	Subject	Hrs.	Subject	Hrs.	Subject	Hrs.
Latin............	8	Latin............	8	Latin............	8	Latin............	4
English	6	English..........	6	English..........	6	English	4
Religion	2	Religion	2	Religion	2	Religion	2
Mathematics	5	Mathematics	5	Mathematics	5	Mathematics......	5
History..........	5	History..........	5	History..........	5	Greek...........	5
				Greek...........	5	History..........	5
						*Physics..........	7

*Physics is required of students preparing to enter the department of engineering, architecture and the college of general science.

Commercial branches (ten hours) may by special arrangement be taken after the first year of the preparatory school. This is not, however, recommended in the case of students who intend to enter University courses.

Modern Languages (three hours) may be elected during the last two years of the preparatory course.

Written Work

Home-Tasks, Examinations.

Daily home-tasks are required in Latin, Greek and Mathematics, and two home-tasks weekly in English.

Written examinations in all branches studied are held every month.

CERTIFICATES OF PROFICIENCY IN

COMMERCIAL COURSES

WERE AWARDED TO

James P. Connell
Arthur J. O'Connor
Edward J. Ferrario
Grove C. Celio
Harry G. Whelan
Peter P. Barbettini
Ralph I. Purdy

PREPARATORY DEPARTMENT

First Year

Course 1. Latin.

Eight Hours, One Semester.

Precepts: Etymology and Syntax. Text: Pearson, Essentials of Latin. Authors: Caesar, Selections. Practice: Themes.

Course 2. Latin.

Eight Hours, One Semester.

Precepts: Etymology and Syntax. Text: Pearson, Essentials of Latin. Authors: Caesar, Gallic War. Practice: Themes in imitation.

Course 3. English.

Six Hours, One Semester.

Precepts: Brooks, English Composition, pp. 1-69 and Chapter 12. Authors: Irving, Sketch Book. Lamb, Tales from Shakespeare. Practice: Weekly Compositions.

Course 4. English.

Six Hours, One Semester.

Precepts: Brooks, English Composition, pp. 69-110. Authors: Macaulay, Lays of Ancient Rome. Scott, Ivanhoe. Practice: Weekly Composition.

Course 5. Religion.

Two Hours, One Semester.

Christian Doctrine. Baltimore Catechism thoroughly reviewed.

Course 6. Religion.

Two Hours, One Semester.

Kinkead, Explanation of the Baltimore Catchism.

Course 7. Mathematics.

Five Hours, One Semester.

Algebra. Text: Wells Algebra, from beginning to factors inclusive.

Course 8. Mathematics.

Five Hours. One Semester.

Algebra. Text: Wells Algebra, from factors to quadratics inclusive.

Course 9. History.

Five Hours, One Semester.

The Ancient Nations and Greece. Text: Goodspeed.

Course 10. History.

Five Hours, One Semester.

Rome. Text: Goodspeed.

Second Year.

Course 11. Latin.

Eight Hours, One Semester.

Precepts: Etymology and Syntax reviewed in analysis work. Authors: Caesar, Gallic War, two Books. Practice: Themes in Imitation.

Course 12. Latin.

Eight Hours, One Semester.

Precepts: Syntax reviewed in analysis work concludtice: Themes in Imitation.

Course 13. English.

Six Hours, One Semester.

Precepts: Brooks, English Composition, pp. 110-178. Authors: Scott, Lady of the Lake. DeQuincey, Joan of Arc. Byron, Prisoner of Chillon and Selections. Practice Composition. Exercises.

Course 14. English.

Six Hours, One Semester.

Precepts: Brooks, English Composition, pp. 178-237. Authors: Addison and Steele, Sir Roger de Coverly Papers. Shakespeare, Julius Caesar. Practice: Composition. Exercises.

Course 15. Religion.

Two Hours, One Semester.

Christian Doctrine. Text: Kinkead, Explanation of the Baltimore Catechism, second half.

Course 16. Religion.

Two Hours, One Semester.

Christian Doctrine. Text: De Harbe, Full Catechism of the Christian Religion, Part II.

Course 17. Mathematics.

Five Hours, One Semester.

Algebra to Quadratics reviewed. Text: Wells, Algebra.

Course 18. Mathematics.

Five Hours, One Semester.

Algebra from Quadratics to end. Text: Wells, Algebra.

Course 19. History.

Five Hours, One Semester.

Medieval History and Modern.

Course 20. History.

Five Hours, One Semester.

Modern History.

Third Year

Course 21. Latin.

Eight Hours, One Semester.

Precepts: Syntax. Authors, Cicero, De Amicitia and Letters. Practice: Themes in Imitation.

Course 22. Latin.

Eight Hours, One Semester.

Precepts: Syntax. Authors: Cicero, Narrations and Descriptions. Ovid, Narrations and Descriptions. Practice: Themes in Imitation. Original Exercises.

Course 23. English.

Six Hours, One Semester.

Precepts: Text: Brooks, English Composition, Book II. Authors: Hawthorne, House of the Seven Gables. Bryon, Prisoner of Chillon. Practice: Composition, Written Exercises.

Course 24. English.

Six Hours, One Semester.

Exercises. Second Term. Precepts. Text: Brooks, English Composition, Book II. Authors: Newman, Callista, Shakespeare, Merchant of Venice. Practice: Composition, Written Exercises.

Course 25. Religion.

Two Hours, One Semester.

Christian Doctrine. Text: Deharbe, Full Catechism of Christian Religion, Part III.

Course 26. Religion.

Two Hours, One Semester.

Christian Doctrine. Text: Deharbe, Full Catechism of Christian Religion, Part I.

Course 27. Mathematics.

Five Hours, One Semester.

First Term. Plane Geometry. Algebraic Applications. Text: Wentworth.

Course 28. Mathematics.

Five Hours, One Semester.

Second Term. Plane Geometry. Algebraic Applications. Text: Wentworth.

Course 29. History.

Five Hours, One Semester.

Civil Government. Text: Strong, Government of the American People.

Course 30. History.

Five Hours, One Semester.

History of the United States. Text: Montgomery, Students' American History.

Fourth Year

Course 31. Latin.

Five Hours, One Semester.

Precepts: Syntax. Authors: Cicero, De Senectute.

Virgil, Three Books. Practice: Themes in Imitation. Original Exercises. Easy Latin Conversation.

Course 32. Latin.

Five Hours, One Semester.

Precepts: Prosody. Authors: Cicero, Narrations. Virgil, Three Books. Practice: Themes in Imitation. Original Exercises. Easy Latin Conversation.

Course 33. Latin.

Four Hours, One Semester.

Precepts: First Steps in English Rhetoric. Text: Essentials of English Composition—Linn. Authors: Macaulay, Johnson, Shakespeare, Macbeth. Practice Composition. Exercises in simpler forms of verse.

Course 34. English.

Four Hours, One Semester.

Precepts: English Rhetoric. Text: Essentials of English Composition—Linn. Authors: Poe, Tales. Selections in verse. Practice: Composition. Exercises in simpler forms of verse.

Course 35. Religion.

Two Hours, One Semester.

Christian Doctrine. Text: Faith of Our Fathers, first half.

Course 36. Religion.

Two Hours, One Semester.

Christian Doctrine. Text: Faith of Our Fathers, second half.

Course 37. Mathematics.

Five Hours, One Semester.

Solid Geometry. Text: Wentworth, Plane and Solid Geometry.

Course 38. Mathematics.

Five Hours, One Semester.

Plane Trigonometry. Wentworth.

Course 39. History.

Five Hours, One Semester.

Wyatt, History of England.

Course 40. History II.

Five Hours, One Semester.

Wyatt, History of England.

Course 41. Physics.

Eight Hours, One Semester.

A course in elementary Physics, with copious laboratory experiments.

Course 42. Physics.

Eight Hours, One Semester.

A continuation and completion of Elementary Physics.

Course 43. Greek.

Precepts: Syntax. Text: Yenni, Greek Grammar. Authors: Xenophon, Anabasis, two Books.

Course 44. Greek.

Precepts: Syntax. Text: Yenni, Greek Grammar. Authors: Xenophon, Anabasis, two Books.

Course 45. Greek.

Precepts: Syntax. Text: Yenni, Greek Grammar. Authors: Xenephon, Cyropaedia. Herodotus, History. Practice: Themes in Imitation. Exercises in Easy Conversation based on the Author.

Course 46. Greek.

Precepts: Syntax, Etymology, etc. Text: Yenni, Greek Grammar. Authors: Lucian, Dialogues. Anacreon, Odes. Practice: Themes in Imitation. Exercises in easy conversation based on the Author.

RE-OPENING

The 1912-1913 session of the University of Santa Clara will begin on September 12, 1912

SANTA CLARA JOURNAL PRINT